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SATURDAY DECEMBER 23 1944

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BRITISH MEDICAL JOURNAL

LONDON SATURDAY DECEMBER 23 1944

THE SUPPLY OF BODIES FOR DISSECTION: A HISTORICAL REVIEW*

BY

NEVILLE M. GOODMAN, M.D.

The subject falls naturally into three periods: from the Middle Ages until the revival of dissection as part of the general training of medical students in the mid-eighteenth century; from then until the passing of the Anatomy Act of 1832; and from 1832 until the present time.

First Period

The first date of importance is 1231, when the Emperor Frederick II decreed that a human dissection should be performed at Salerno at least once in five years; but, although dissection was legalized in various parts of the empire in the 13th and 14th centuries, no statutory requirement seems to have been made to provide subjects until, in 1387, we find that the Statutes of the University of Florence request the authorities to see to the delivery of the bodies of three alien criminals each year for this purpose. The connexion between dissection and the punishment of crime was to last for 450 years.

In England and Wales the claims of anatomical dissection were recognized by the Charter given in 1540 by Henry VIII to the United Company of Barbers and Surgeons, which enacted that "the sayd maysters or governours of the mistery and comminaltie of barbours and surgeons of Londō & their successours yerely for ever after their sad discrecions at their free liberte and pleasure shal and maie have and take without cotradiction foure persons condempned adjudged and put to deathe for feloni by the due order of the Kynges lawe of thys realme for anatomies" . . . and so on.

Scotland had been somewhat earlier in the field, the Town Council of Edinburgh having given in 1505 the Incorporation of Surgeons and Barbers "once a year a condemned man after he be dead, to make anatomy of, wherethrough we may have experience to instruct others. And we shall do suffrage for the soul." In 1694 this grant was extended to include "those bodies that dye in the correction-house; the bodies of fundlings who dye betwixt the tyme that they are weaned and thir being put to schools or trades; also the dead bodies of such that are stiflet in the birth, which are exposed, and have none to owne them; as also the dead bodies of such as are felo de se; likewayes the bodies of such as are put to death by sentence of the magistrat." This was granted subject to dissections being made only in the winter months and the intestines being buried within 48 hours and the rest within ten days. Although in Ireland no specific provision for anatomical subjects seems to have been made, eight persons are mentioned as Readers of Anatomy in the Charter to the Barbers, Surgeons, Apothecaries, and Periwig Makers of 1687. In France, by the middle of the 17th century, dissection was practised so openly that Molière makes a lover ask his mistress to come and see the dissection of a woman, provoking the maid's comment that "some people take their mistresses to a comedy, but to take them to a dissection is far more gallant!"

Here, the official arrangements for dissection soon proved inadequate, and by the first half of the 18th century "private anatomies" were becoming so common that it was clear that the attempts to put them down were hopeless; already the prevalence of body-snatching had led to riots in Edinburgh in 1725 and 1742. In 1752 the official supply was somewhat augmented by an Act (25 George II, Cap. 37) which gave the bodies of murderers executed in London and Middlesex to the Surgeons' Company, and those of murderers executed outside this area might be given to local surgeons chosen by the judge or hung in chains at his discretion.

The revival of anatomy about 1750 under the Hunters in London and the Monros in Edinburgh rapidly increased the number of students and still more the demand for bodies, since formal demonstration by the lecturer no longer sufficed and students carried out many dissections for themselves. The number of medical students in Edinburgh was 57 in 1720, about 340 in 1780–90, and over 400 after 1800. In London the number of students of anatomy was 300 in 1798 and 1,000 in 1823.

Second Period: The Resurrectionists

This brings us to our second period—the Golden Age of the Resurrectionists. These were of two types: the students themselves, often led by the professors' assistants; and professional body-snatchers, who worked at first singly or in pairs, but later were organized into rival gangs. The professional body-snatchers depended mainly on disinterment, but used other tricks, such as impersonation of relatives and stealing before burial. At first prosecutions were rare—indeed, the law on the subject was doubtful, and the body-snatchers themselves were convinced that they could not be indicted unless they removed the grave-clothes or a portion of the coffin—but in Rex *v.* Lynn in 1788 the King's Bench decided it to be a misdemeanour to carry away a dead body from a churchyard even for dissection, as being an offence *contra bonos mores* and common decency, and it was later decided by the courts that a person would be indictable if he was a party to the non-interment as well as to the disinterment of a dead body (Rex *v.* Young, and Rex *v.* Cundick).

With the increase of the traffic, more frequent and open disinterment led to public odium, and the extraordinary state of affairs is best described in the sober words of the Report of the Parliamentary Select Committee on Anatomy of 1828:

> "In proportion as the public became vigilant, the laws relating to sepulture were interpreted and executed with increasing rigour; and as the price of subjects rose with the difficulty of obtaining them, the premium for breaking the laws increased with the penalty. The exhumators increased in number, and, being now treated as criminals, became of a more desperate and degraded character. The parties of daring men who now took to raising bodies, did it happen (as was frequently the case) that, while in pursuit of the same spoil, they fell in one with another, actuated by vindictive feeling, and regardless of the caution and secrecy on which the successful continuance of their hazardous occupation must depend, had contests in the places of sepulture—left the graves open to public gaze, or gave information to magistrates, or the relatives of the disinterred, against their rivals." The public were excited against the teachers of anatomy by these outrageous acts; "and this to such a degree, that of late, in many cases, individuals, out of solicitude to guard the dead, have taken upon themselves to dispense with the laws of their country, and have fired upon parties attempting disinterment."

By 1820 the matter had become a public scandal. In 1828, of 800 students in London, about 500 actually dissected. Since the optimum number of subjects per student was then said to be three—two for dissection and one for operative surgery—

* Abridged from an Arris and Gale Lecture, 1944.

about 1,500 bodies were annually required. Students were resorting to Paris, Dublin, and other foreign schools. Sir Astley Cooper stated to the Select Committee in 1828 that about 450 subjects were actually dissected in the London schools in one season. The price was 8 to 10 guineas, and had been as high as 16 guineas, as compared with 1 to 2 guineas thirty years previously. The state of public opinion was such that, according to Sir Astley Cooper, there was practically no chance of obtaining bodies from London burial grounds by disinterment, and the chief source of supply was importation from abroad, mainly from Dublin. These might be seized by the Customs if detected, and were often so putrefied as to be unfit for use. An ingenious ex-naval captain in Dublin not only organized the export of bodies from that city but raised a public fund to pay watchers to prevent exhumation; with the fund he paid his own agents, ostensibly as watchers but actually as resurrectionists. In Edinburgh the situation was even worse. Well-to-do persons hired watchers with loaded blunderbusses at 6d. a night, with free liquor, to guard the graves of relatives until putrefaction was too far advanced for the bodies to be worth exhuming, and I have seen mort safes—iron cages to prevent exhumation—still existing in graveyards more than fifty miles from Edinburgh.

I wish that space allowed me to quote more of the macabre evidence of the surgeons, magistrates, police officers, and resurrection men who appeared before the Select Committee. A resurrectionist—probably the notorious Ben Crouch—admitted to having made a complete corner in the supply for London between 1809 and 1813. According to his book, in 1890 "the number in England was 305 adults and 44 small subjects under three feet; but the same year there were 37 for Edinburgh and 18 we had on hand that were never used at all." Other matters dealt with in the evidence included the extraction of teeth as a profitable side-line; the importation of subjects from Ireland; the attitude of Home Secretaries—Robert Peel and the Marquis of Lansdowne—and of the police; and the easier position and arrangements made for subjects in Dublin, Paris, Göttingen, and Italy.

Many petitions had been received by Parliament, uniformly praying for an amendment of the existing law. One from the Royal College of Surgeons pointed out that they had a legal duty to examine students, especially as regards surgeons for the Army and Navy. For this purpose dissection was necessary. But the Regulations of the College on this point tended to encourage violation of the law and establish "in the procurers of dead bodies a set of men living by practices which are revolting to the feelings of Society, exposed to the hatred and contempt of those around them, and likely, by the joint operation of these causes, to become trained and gradually habituated to the commission of still greater crimes": the law "which, at the same time that it declares the student to be guilty of a misdemeanour if he attempts to obtain anatomical knowledge, renders him also, when afterwards engaged in practice, liable to a civil action on account of any mistake which his ignorance of anatomy may lead him to commit."

Many suggestions were made, including the establishment of a public fund to pay volunteers, while living, for the right to claim their bodies for dissection after death. Apart from the doubtful legality of the transaction, there is the obvious objection that hardly any of them would be traceable when the time came. To this day, the Anatomy Offices have to refuse a number of such offers every year. Enlightened persons—not only or, I regret to say, mainly of our profession—tried to overcome prejudice and augment supplies by bequeathing their own bodies for anatomical purposes. Jeremy Bentham was a notable example, and Dr. James Macartney of Trinity College, Dublin, obtained the signatures of 99 respectable persons in Dublin in a fortnight to an agreement to give their bodies for dissection.

Mr. Warburton's Two Anatomy Bills

Finally, as a result of public agitation and discussion—in which a high place must be given to Dr. Southwood Smith's article, "The Use of the Dead to the Living," first published anonymously in the *Westminster Review* of 1824 and reprinted several times and distributed to Members of Parliament—the House of Commons was induced to set up a Select Committee on Anatomy, already referred to, under the chairmanship of Mr. Henry Warburton, M.P. The Select Committee began its sittings on April 22, 1828, and reported on July 22. Its report did not make specific recommendations, but strongly urged legislative action. At this time Parliament was intensely preoccupied with debates on the repeal of the Test and Corporation Acts and with the state of Ireland consequent on the election of O'Connell for Co. Clare. Nevertheless, its obligations with regard to anatomical supply were brought unexpectedly and forcibly to the notice of the whole nation by the discovery of the sixteen murders of Burke and Hare in Edinburgh, the details of which are too well known to recall here. Suffice it to say that the murders created intense popular excitement and indignation; ruined, in Dr. Knox, the country's leading teacher of anatomy; and gave a new word to the language.

On April 4, 1829, the Catholic Relief Bill passed the Lords, and on the 7th Mr. Warburton moved for a Select Committee to give effect to the recommendations of the Committee on Anatomy of the previous year. As a result, Mr. Warburton's first "Bill for preventing the unlawful disinterment of human bodies, and for regulating Schools of Anatomy," was introduced on May 5. The main features of the Bill were, broadly, those embodied in the Act of 1832—viz., the licensing and control of places and persons for carrying on human dissection; the legalization of bequests for dissection purposes; and the handing over for dissection of bodies of persons dying in prisons, hospitals, and workhouses, if unclaimed within 72 hours, to licensees, who were responsible for burial and the keeping of records. The Bill also laid down specific penalties for disinterment. But it contained a number of features which caused strong opposition, and it also failed to repeal the clause of the 1752 Bill which gave up the bodies of murderers for dissection—an amendment to this effect being defeated by 40 votes to 1. The Royal College of Surgeons petitioned against the Bill on the ground that the appointment of seven Commissioners, of whom a majority were not to be physicians, surgeons, or apothecaries, to control medical schools and places of dissection would infringe the privileges of the College. The proprietors of private anatomy schools were afraid that the phrasing of the Bill would lead to their extinction, and the *Lancet* supported the opposition because it feared an adverse effect on the study of anatomy outside London and the Universities. Also the Bill did not apply to Ireland, and it was thought that it might increase the traffic in human bodies from that country. The Bill had a second reading in the Commons, but was dropped on June 5, 1829, in the Lords, although its principles received general support.

Nothing more was done in the following 12 months, and on June 26, 1830, George IV died and Parliament was dissolved. In November, following the elections, the long Tory reign of some 50 years was broken and Earl Grey's Whig administration assumed office. Still nothing was done, until in the following November a second notorious crime completed the work of rousing public opinion which Burke and Hare had begun. On Nov. 5 Bishop and Williams (or Head) tried to sell the body of a boy of 14 to King's College. Its appearance raised in the porter's mind a suspicion of foul play, and the Demonstrator of Anatomy, Mr. Partridge, detained the men with the excuse of getting change for a £50 note—the agreed price was 9 guineas—until the police arrived. A post-mortem examination showed fractures of the cervical vertebrae, and it transpired that the body was that of an Italian boy, Carlo Ferrari, who had been lured by the murderers to an empty house in Nova Scotia Gardens, off the Hackney Road, drugged with opium, overpowered after a struggle, and drowned by hanging head downwards in a well. Bishop and Williams also confessed to the murder of a woman and a boy for the same purpose, and these confessions were magnified in the popular imagination until the victims of "burking" were believed to number hundreds. They were hanged on Dec. 5, 1831, and on Dec. 16 Mr. Warburton introduced into the Commons his second Anatomy Bill, which, after many changes in committee, received the Royal Assent on Aug. 1, 1832, as "An Act for regulating Schools of Anatomy," Gul. IV, 2 & 3, Cap. 75. This is the Act which governs anatomical supply to-day.

It is not necessary to consider in detail the changes made in committee. Originally the Bill closely resembled Warburton's

first Bill of 1829, but most of the features which had roused the greatest opposition were removed in committee. The preamble may be quoted.

"Whereas a Knowledge of the Causes and Nature of sundry Diseases which affect the Body, and of the best Methods of treating and curing such Diseases, and of healing and repairing divers Wounds and Injuries to which the Human Frame is liable, cannot be acquired without the Aid of Anatomical Examination: And whereas the legal Supply of Human Bodies for such Anatomical Examination is insufficient fully to provide the Means of such Knowledge: And whereas, in order further to supply Human Bodies for such Purposes, divers great and grievous Crimes have been committed, and lately Murder, for the single Object of selling for such Purposes the Bodies of the Persons so murdered: And whereas, therefore, it is highly expedient to give Protection, under certain Regulations, to the Study and Practice of Anatomy, and to prevent, as far as may be, such great and grievous Crimes and Murder as aforesaid; be it therefore enacted . . ."

The Anatomy Act of 1832

The substance of the Act may be summarized as follows: Clause I gives power to the Secretary of State for the Home Department and the Chief Secretary for Ireland to grant licences to practise anatomy to qualified medical practitioners, teachers of anatomy, medicine, or surgery, and students attending schools of anatomy, upon application countersigned by two Justices of the Peace. Clauses II and III give the Secretary of State power to appoint "not fewer than Three Persons to be Inspectors of Places where Anatomy is carried on," and to appoint them to districts and lay down their duties. Quarterly returns of bodies removed for anatomical purposes must be made by the Inspectors.

The most important clause is the VIIth, which gives power to persons having the lawful custody of a body to allow it to be dissected in certain circumstances and under certain conditions; from this clause 97% of our present supply is derived —i.e., from unclaimed bodies in the custody of local authorities. This power to permit the anatomical dissection of a body is overridden (1) if the person when living expressed in writing or in the presence of two witnesses his wish not to be dissected, or (2) if the husband, wife, or any known relative of the deceased objects. Clause VIII deals with so-called "bequests" —as there is no legal property in a body, the term is not accurate: it authorizes those having custody of the body of a person who during life directed that an anatomical examination should be made of his body after death, to have this done, again unless the husband, wife, "nearest known relative or any One or more of such person's nearest known Relatives, being of Kin in the same Degree," objects.

Bodies must not be removed for anatomical examination until 48 hours after death and 24 hours after notice has been given to the Inspector, and must be accompanied by a medical certificate of the cause of death. Persons licensed as above to receive bodies for dissection must transmit the particulars and the medical certificate to the Inspector and keep a register (Clauses X and XI). One week's notice must be given to the Secretary of State of places where anatomy is taught or bodies are received for dissection (Clause XII). Bodies must be removed in a "decent coffin or shell," interred with the appropriate religious rites, and a certificate of interment sent to the Inspector within six weeks (XIII). Nothing in the Act is to interfere with necropsies directed by a competent legal authority (XV). The Act directing the bodies of murderers to be dissected is repealed (XVI). Punishments for offences against the Act are laid down as a maximum of three months' imprisonment or a fine not exceeding £50.

The Act was immediately and completely successful in bringing body-snatching to an end. Dr. James Somerville, the first Inspector appointed for England and Wales under the Act, gave evidence before the Parliamentary Select Committee on Medical Education in April, 1834—20 months after the Act's coming into force. He stated that exhumation had entirely ceased; prices of subjects were greatly reduced, and they were obtained in a much fresher condition. In the first year after the passing of the Act 600 subjects were supplied to the London schools, as compared with his estimate of about 300 previously. There were temporary declines in supply, Dr. Somerville stated, through "the extraordinary mildness of the season" causing a lower death rate following the extraordinary previous mortality from cholera and "the late influenza"; also because of the "exceptional diffusion of comfort" among the working classes. Both these causes are liable to cause shortages to-day. In Scotland the success of the Act had not been so instantaneous, but difficulties had been smoothed by the Inspector for Scotland, Dr. Craigie. The Return of Licences under the Act at the time showed 8 hospital medical schools and 8 private schools in London and 16 hospitals and private schools in the Provinces; in addition 19 persons in the Provinces were licensed to practise anatomy for their own information or that of their private pupils.

Legal and Administrative Changes since 1832

Before discussing the supply position from 1832 to the present time, certain legal and administrative changes since the passing of the Act must be mentioned. The Amending Act of 1871 (34 Vict., Cap. 16) merely gave power to the Secretary of State to vary, by Order, the period within which the certificate of interment must be sent to the Inspector of Anatomy—i.e., to vary the time within which the dissected subject must be buried. A change was desirable as the result of improved methods of preserving bodies, together with a gradual fall in the supply in relation to the number of students. The first Order in 1871 extended the period from six weeks to six months. At various dates the period was further extended, and in 1940 a similar Order to that of the last war was made for England and Wales—i.e., at the present time the period during which a body may be retained for dissection is two years.

The functions of the Home Office under the Anatomy Acts were transferred in 1919 to the Ministry of Health. When the Local Government Act of 1929 came into force a circular was issued transferring the functions of the Boards of Guardians under the Anatomy Acts to the Councils of the appropriate local authorities—i.e., to the Councils of Counties and County Boroughs.

Certain changes in the appointments and duties of the Inspectors of Anatomy must also be noted. Dr. James Somerville was Inspector for England and Wales from 1832 until 1842, when separate Inspectors were appointed for London and for the Provinces. In 1921 a single Inspector, Dr. Alexander Macphail, was appointed for the whole of England and Wales, and in 1939 Prof. Henderson, his successor and the present Inspector of Anatomy—now serving with the Royal Navy—was appointed Inspector for Scotland also. Originally the Inspectors of Anatomy were concerned with the administration of the Anatomy Acts and not with questions of supply. In 1921, however, when the supply position was extremely serious, the Minister of Health, Lord Addison—himself an anatomist—agreed that Dr. Macphail should be appointed as Inspector of Anatomy and also as a whole-time medical officer on the staff of the Ministry of Health, and should concern himself with questions of supply. Since then the Inspector has held what might be described as a watching brief over the supply of bodies for dissection. In agreement with the professors of anatomy concerned, he opens up new sources by approaching local authorities to give their sanction to co-operation in the work of the Anatomy Acts; stimulates existing sources by correspondence and visits; corresponds with other Government Departments on matters which have given rise to difficulties or disputes; and so on. For London, the Inspector has agreed to take the more direct responsibility of allocating supplies to the different schools, in co-operation with the London Committee of Licensed Teachers of Anatomy, whose meetings he attends by invitation. In Scotland, the Inspector attends the statutory Annual Meeting of the Edinburgh Anatomical Committee, the Glasgow Institute of Anatomy, and the Aberdeen Funeratory Committee. His statutory duties under the Anatomy Acts include occasional visits of inspection to the medical schools and the supervision of the work performed by the Clerks to the Anatomy Offices in London and Edinburgh.

Turning to supply, reasonably correct and comprehensive figures are fortunately available to show the variations in supply in relation to the number of medical students from 1832 to the present time.

The Supply since 1832

Fig. 1, based on a graph supplied through the courtesy of Prof. Brash of Edinburgh, shows the number of subjects in

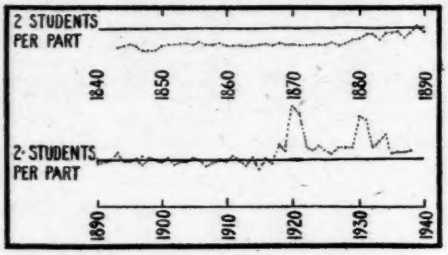

FIG. 1.—Graph showing number of students per part in Edinburgh in 1843–1938.

relation to the number of students in Edinburgh from 1843 to 1938. Fig. 2 shows the same for England and Wales from

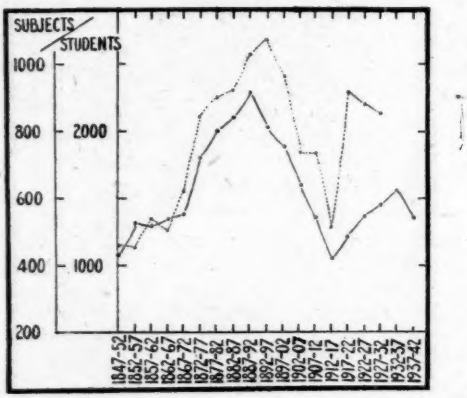

FIG. 2.—Graph showing average number of (*a*) subjects (——), (*b*) students (· - - - ·) in 5-year periods 1847 to 1942 in England and Wales.

1847 to 1942. The trend of the graphs is similar, and shows that in England and Wales until 1860–70 the number of subjects was approximately equal to the number of students. Afterwards the supply gradually fell in relation to the number of students, and about 1900 it began to fall absolutely. By 1903 the position was serious enough for representations to be made to the Home Office and the Local Government Board. In December, 1910, an Anatomical Supply Committee of Great Britain and Ireland was constituted, and issued a report in 1912, which resulted in a deputation to the Home Secretary and a Conference at the Home Office in March, 1913. The outbreak of war in 1914 occurred before any definite action had been taken, and from 1914 to 1918 the supply decreased gradually with the decrease in the number of students during the war. The sudden large increase in the number of students in 1919 made the position temporarily very serious. The Minister of Health received in 1919 another deputation from the Anatomical Supply Committee, and was asked to consider amending the Anatomy Acts or introducing fresh legislation "whereby it shall be compulsory for the legal custodians of any unclaimed body to notify the possession of the same to an accredited Government official, and to act on his instructions regarding its disposal." No legislative action was taken, but hortatory circulars were issued to Boards of Guardians and, as already mentioned, on the appointment of a new Inspector as a Medical Officer of the Ministry in 1921, he was charged with making systematic approaches to Boards of Guardians and institutions and generally to concern himself with the questions of supply. This action—together with the restoration of the number of students to normal levels—gradually improved the situation, and the supply on the whole increased, with annual fluctuations, until about 1936, when it again declined. The average number of subjects supplied in the whole of Great Britain for the three academic years 1936–7 to 1938–9 was 759 per annum. Omitting the academic year 1939–40, the average for the three war years 1940–1 to 1942–3 was 673—a fall of 11%.

The result of the diminution of supplies has, of course, been to increase the number of students per part. The optimum number for anatomy students is generally considered to be 2 per part—i.e., 16 per body; allotting 2 for each limb, 4 for the head and neck, and 4 for the thorax and abdomen. This level was approximately maintained until about 1920, since when more than two students per part have had to dissect in many schools. For the academic year 1941–2 there were 12,582 students (including dental students but excluding operative surgery classes) according to the returns received in the Anatomy Office, and the number of subjects supplied (excluding those for operative surgery and examinations) was 608, making an average for the whole country of 20 students per subject, or 3.3 students per part instead of 2. Of course the position varies for each school, being on the whole best in the Provinces and definitely worst in Scotland. The position is perhaps rather better than is shown from these figures since dental students are included, and the amount of dissection performed by dental students varies within wide limits.

The causes of the diminution of supply may be divided into (1) long-term, (2) wartime, (3) temporary or seasonal.

(1) The long-term cause which has been operating with gradually increasing force over the past 100 years is, of course, the improvement in the social and financial position of the poorest classes. Improvements in real wages, social legislation, and philanthropic efforts have all played their part, and there is little reason to expect that this process will not continue—indeed, certain aspects of social legislation already adopted in principle by the Government may be expected to have most important effects on supplies.

(2) The present war has accelerated this tendency in that the disappearance of unemployment and the high wages of the working classes have led to the almost complete disappearance of the "casual" class and have reduced the number of persons whose bodies their relatives have not thought it worth while to claim, since even elderly and infirm persons dying in institutions may, under present conditions, have left some estate. There are also minor difficulties peculiar to the war, such as delay in tracing relatives, difficulties in transport, shortages of staff, etc.

(3) Temporary difficulties may be caused by a lowering of the expected mortality as a result of mild winters and the absence of epidemics. The efforts of the Ministry of Health and the medical profession to lower the death rate have the paradoxical result of increasing the difficulties of one part of the work of the Ministry and of undermining to some extent the foundations of medical education.

What are the sources from which the supplies of subjects for dissection are at present derived? In 1941–2 the supply for the whole country came as to 97% from unclaimed bodies in institutions (of which 70% came from public assistance institutions, public hospitals, etc., and 27% from mental institutions); 3% were derived from "bequests."

"Bequest" Subjects

As regards "bequest" cases, the number is small but increasing. A majority of inquirers hope to obtain some financial reward for the "bequest," and when they find that this is impossible lose interest. Nevertheless, an increasing number of enlightened medical men and others of the educated classes express a wish to leave their bodies for anatomical dissection. Thus in 1943 some 30 applications were made for the necessary forms, and actual "bequests" were received to the number of 20 for London, 13 for the Provinces, and 5 for Scotland. It comes as a surprise to many people that they cannot dispose of their own body as they wish, but since it has been held that there is no property in a body, it is impossible to bequeath, in the legal sense, one's own body for anatomical dissection. When an individual desires that his body should be used for this purpose he should understand that the legal right to dispose of his body after death rests with the person—i.e., the next of kin or executor—in whose custody it will be at that time. Further, it can be sent to a medical school for anatomical examination only in the absence of objection from any near relative. Accordingly, the person making such a "bequest" should arrange to leave with his papers a written statement of his desire to benefit medical education in this way. The executor or next of kin should then, immediately after the event of death, have the necessary forms completed and sent in.

The professor of anatomy who receives the body is responsible for its preservation until it is ready for burial. This is conducted by a clergyman of the faith which the deceased professed during life, and the burial certificate, with full information, is sent to the Inspector of Anatomy, who transmits the particulars to the person who originally authorized removal of the body for this purpose. It may be noted that a funeral service may be held before the removal of the body or, of course, a memorial service in the absence of the body.

All expenses connected with the removal and a simple funeral are borne by the medical schools. Bodies may be left to a particular medical school, but it is more desirable that testators should not express such a wish and should allow their bodies to be sent to the medical school which is most convenient at the time of death. The forms required are (1) a medical certificate of the cause of death; (2) in the London area, a notice to the Inspector of Anatomy to remove the body, to be signed by the next of kin or executor; in the Provinces and in Scotland, a similar form with, in addition, a form to be sent to the professor of the medical school concerned. Should the forms not have been obtained during life, or be inappropriate, or have been mislaid, they can, of course, be obtained by the next of kin or executor as set out below.

To sum up, persons intending to bequeath their bodies for anatomical dissection should (1) ascertain so far as is possible that no objection will be raised by the nearest relatives; (2) place with their papers a written statement of their intention; (3) apply for the necessary forms and instructions to H.M. Inspector of Anatomy at the Anatomy Office, Ministry of Health, Whitehall, S.W.1 (for England and Wales), or the Anatomy Office, St. Andrew's House, Edinburgh (for Scotland).

Although it is clear that the number of subjects derived from "bequests" cannot replace entirely the number derived from unclaimed persons dying in institutions, yet I am convinced that, if more was known in our profession and by the public of the need for, and the conditions of, this method of disposal, the proportion of "bequest" subjects might be considerably increased. In this connexion, I venture to suggest that students should not become qualified without having some idea of the derivation of the bodies which they have dissected during their course on anatomy and operative surgery, and that it is desirable that teachers of anatomy should spend a few minutes giving to each of their classes a short talk on this subject. After all, the most effective answer to criticisms is that doctors themselves are willing to give their own bodies for this purpose.

ESTIMATION OF HEAT RADIATION IN CLINICAL PRACTICE

BY

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AND

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Whereas a great deal of work has been done on developing the quantitative administration of *x* rays and radium rays, the administration of infra-red radiation for clinical purposes still relies to a great extent on guesswork. The reason for this discrepancy is twofold. In the first place, as we shall see presently, the problem of exercising quantitative control over the administration of infra-red radiation is far more complex than in the case of *x* rays. Secondly, heat radiation is considered harmless, since overdosage is registered almost instantaneously by pain, whereas overdosage of *x* or radium rays is insidious, their effects not becoming apparent until some time after administration. It must be remembered, however, that weak sources of infra-red radiation are probably of little clinical value, and that powerful radiators producing definite clinical effects are by no means harmless. For example, cases have been recorded in which burns have been inflicted on unconscious patients, and even when the patient is conscious there may be a general overheating of the body and disturbance of the circulation. It is the aim of this paper to define clearly the physical problems underlying the quantitative clinical administration of heat rays and to offer suggestions for the solution of these problems. We do not wish to discuss at this stage the physiological effects of the various kinds of infra-red radiation; our aim is rather to put into the hands of the medical practitioner the means of controlling this radiation in a quantitative and reproducible way.

* Working with a personal grant from the Medical Research Council.

Setting out the Problem

The heat rays used in clinical practice are electromagnetic vibrations like *x* rays, ultra-violet, and visible light, and are only to be distinguished from these radiations by their greater wave-length. The various radiators used in clinical practice all emit rays with a wave-length ranging from that of visible light (roughly 0.5 μ) to the far infra-red with a wave-length of 8 μ or more. The particular distribution of the radiated energy over the various wave-lengths—i.e., the *quality* of the radiation—depends in each case on the nature of the source, and in particular on its temperature and the character of its surface. Any hot body acts as a radiator. Its radiation is spread over all wave-lengths, but the wave-length in the neighbourhood of which the greater part of the energy is emitted depends on the temperature of the body. The hotter the body the shorter is this wave-length. Fig. 1 shows the energy emitted from 1 sq. cm. of a blackened surface at two different temperatures.

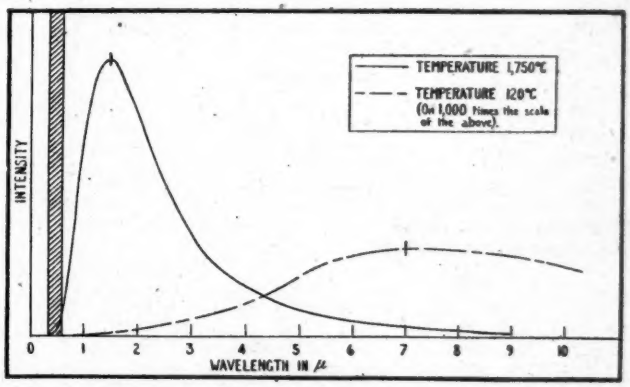

FIG. 1.—The radiation from hot bodies distributed according to wave-length. The shaded area shows the visible region.

The quality of radiation thus differs from source to source, and while its specification is undoubtedly of considerable importance in clinical applications, our main attention in this paper will be fixed on the primary task of determining the *total* quantity of radiant energy of all wave-lengths received on the skin of the patient. The complexity of the problem, and the way in which it may be subdivided, can be illustrated by the example of the radiant-heat cradle.

The first complication is that, in contrast to *x*-ray work, there is no definite beam of radiation. A surface element of the skin of a patient under the cradle receives radiation not from one direction alone but from practically all directions. The usual practice of radiology, which defines the quantity of radiation by the flow of energy across a surface placed perpendicular to the beam, thus becomes meaningless. It must be replaced by the specification of *radiation flux*, which is the flow of energy coming from all directions which passes in unit time across a unit area of the patient's skin. This is the only physical quantity which is of importance to the clinician, since it tells him how much radiant energy the skin actually receives; and our efforts must be directed towards its determination by methods suited to clinical practice. The most suitable unit for the measurement of radiation flux seems to be the gramme calorie per square centimetre per minute. This is the same unit as Mayneord and Tulley (1943) proposed for the measurement of "intensity of radiation." The actual magnitude of the radiation flux at a particular point on the patient's skin will depend not only on the distance of that point from each radiating element of the source but also on the orientation of the skin to those various elements.

Let us now examine the nature of these elements in the case of the radiant-heat cradle. They are, first, the lamps, which emit radiation of a temperature of about 1,800° C. (carbon filaments), and which may be considered as point sources. Not all their radiation, however, arrives at the skin of the patient, because the glass envelopes of the bulbs absorb all wave-lengths greater than about 3 μ. The absorbed fraction amounts to about one-third of the total radiation emitted by the filaments, and heats the glass envelopes to a temperature of about 100° C. Thus the envelopes in their turn become sources of radiation; but since their temperature is very much lower than that of the filaments, the energy distribution of the radiation emitted by them is quite different from that of the absorbed radiation. Finally, the metal background of the cradle is also heated by radiation from the lamps to a temperature of about 120° C., and therefore it, too, acts as a radiator, which, because of its large surface, plays a very important part in producing the flux received on the skin of the patient (Brown, Evans, and Mendlessohn, 1943). If the background is polished the problem is further complicated by reflection of part of the radiation.

Another difficulty, and one of great importance for the clinician, is introduced by the fact that the heating up of the envelopes and the background is a gradual process, which may take as long as several hours. As we shall see, at the end of this time the patient is receiving *three times* as much radiant energy every minute as when the cradle was first switched on. Although we selected the particular example of the cradle because we had studied it closely in previous work, the same problem of complexity presents itself in connexion with practically any form of clinical treatment lamp.

Computation

The difficulties stressed above will make it clear that a numerical computation of the radiation flux received by the patient is a complicated procedure which, even in the simplest cases, requires considerable mathematical skill and laborious numerical calculation. We have in fact carried out such computations for the radiation flux received on a horizontal plane stretching across the cradle at its widest part—i.e., at 7 in. above the base, or roughly the height of the ventral surface of the patient. The results of these calculations, which are shown in Fig. 3 (B) and Fig. 4 (B), will be discussed below. The mathematical details, which are of a somewhat complex character, will be published elsewhere. In contrast, therefore, to *x*-ray work, computation cannot be advised as a feasible means for the clinician of estimating dosage of radiant heat. Each separate case constitutes quite a considerable problem of mathematical physics, and any error in calculation, or the neglect of any contributing factor, might easily result in a dangerously incorrect estimate of dosage.

Direct Measurement of Radiation Flux

Our efforts will therefore be directed towards the development of an instrument which can be placed at a position which the patient's skin will occupy, and which directly measures the radiation flux. The fact that such an instrument—for which we should like to propose the general name of thermo-radiometer—does not exist serves as an indication that certain difficulties stand in the way of its development. A thermo-radiometer must record the flux of radiant energy received throughout the whole range of wave-lengths emitted by the treatment source. The radiant energy arriving at the receiver surface of the radiometer must be converted into heat, the quantity of which can then be determined by one of several methods. This means that the instrument must register only energy received by radiation, and must not register energy received in any other way. But under any treatment source the air may be warmed, and therefore heat is apt to be transferred to the receiver surface not only by radiation but also by heat conduction through the air.* In scientific determinations of infra-red radiation this difficulty is often overcome by enclosing the receiver surface in an evacuated envelope, and this method has also been used in attempts to determine radiation flux for medical purposes.

The method is, however, limited by the fact that no material suitable for the construction of the vacuum container is known which is uniformly transparent throughout the whole spectral range. A glass envelope, for instance, as used by Mayneord and Tulley in some of their work, is quite opaque for wave-lengths greater than 3–3.5 μ—a fact which was pointed out by these authors. How seriously this limitation can affect the dosage based on the readings of such an instrument is clearly shown in the case of the cradle, where all the radiation flux coming from the envelopes of the lamps and from the metal background is stopped before it reaches the recording surface, because it is all in wave-lengths greater than 3 μ. This means that, although at the beginning of a treatment the patient may be receiving something like the flux indicated by the reading of the instrument, after a lapse of time he will actually be receiving three times as much, though there will have been little or no change in the reading. The acceptance of such readings at their face value therefore introduces a serious danger of overdose.

We have accordingly attacked the problem in a different way. Instead of excluding heat conduction we have employed a differential arrangement in which the energy received by two surfaces is compared. Only one of these surfaces is exposed to the radiation from the treatment source, while both of them receive heat by conduction through the air. Since the distance between the two surfaces is small, the air surrounding them has the same temperature, and the amount of heat received by conduction is the same for both, and cancels out, leaving a direct indication of the radiation flux—i.e., of the quantity which we wish to measure. The physical method by which we determine the amount of heat received by the surface must employ some sort of calorimeter. A primary method, for instance, consists in measuring the rise in temperature of a copper block of given weight in a given time. We have indeed used such an arrangement, comparing the energy received by two such copper blocks, the blackened surface of one of which was exposed to the radiation. Observations with such a thermo-radiometer are very useful for the determination of absolute values of radiation flux, but are too time-consuming for clinical practice.

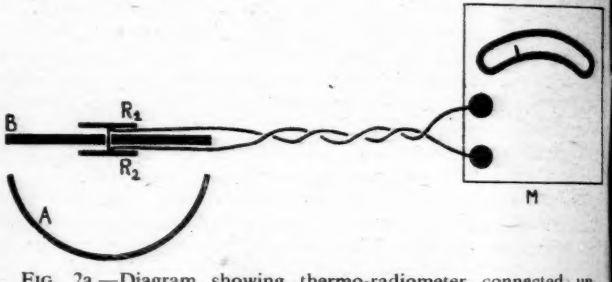

FIG. 2a.—Diagram showing thermo-radiometer connected up with millivoltmeter.

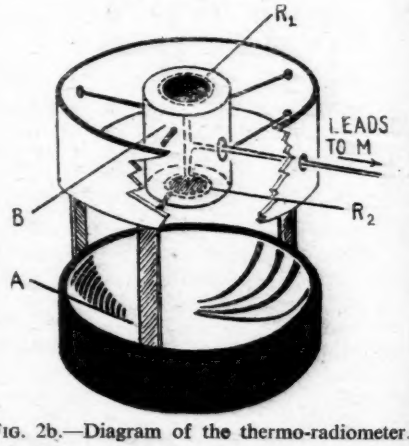

FIG. 2b.—Diagram of the thermo-radiometer.

* Practically no quantitative information is available on the question of how great this conduction may be. Certainly it is not related in any simple way to the quantity of heat received by radiation. It should be possible to devise a simple method for determining the quantity of heat received by the skin through air conduction, and the results would be of interest to the physician; but the whole question is a very complex one, and is beyond the scope of a discussion of heat transfer by radiation.

We therefore propose for general use a simpler arrangement (Figs. 2a and 2b), having two receiver plates, R_1 and R_2, with blackened surfaces, the temperature difference between which is measured by means of a set of thermocouples attached to their reverse faces. R_1 is exposed to the radiation flux to be measured, whereas R_2 is screened from this radiation by the baffle, B. In order to give a constant flux with which the radiation to be measured may be compared, R_2 is placed before a metal screen, A, which is maintained at constant (room) temperature.

When the instrument is used, R_1 is placed in the radiation field at the position which would be occupied by the skin of the patient. R_1 receives the radiation flux which the patient will receive, and R_2 receives a standard flux from A. Both, however, are exposed to the same air conduction. The temperature difference between R_1 and R_2 rapidly becomes steady, and this difference depends only on the flux falling on R_1, provided the flux on R_2 is kept constant.

The instrument must be calibrated against known radiation fluxes (which may be determined by the primary calorimetric method described above, or otherwise); but, once this has been done, the scale of the millivoltmeter, M, can be graduated directly in units of flux (gramme calories per square centimetre per minute). The physician can therefore read off at a glance the flux which the patient will receive on any part of his skin, simply by placing the little instrument in the position which that part of the skin will occupy.

We have constructed such an instrument, and have checked its readings against the flux received from well-defined radiation sources, and by comparison with the primary calorimeter. The technical details of this work will be published elsewhere.

Using this instrument, we have measured the radiation flux in radiant-heat cradles. The results, which are of considerable significance for the clinical use of these cradles, are shown in Figs. 3 (A) and 4 (A). Each figure is a map of a horizontal plane 7 in. above the base of the cradle, and the results are given in the form of a series of "contour lines," along each of which the radiation flux is constant. At any point on the curve marked "1.5," for example, the flux is 1.5 calories per square centimetre per minute, and at any point between the curves marked "1.5" and "1.6" the flux is intermediate between these two values, and so on. Each map is divided into two halves: the left-hand halves (A) show the values actually measured with our instrument, while the right-hand halves (B) show the values calculated as mentioned above.

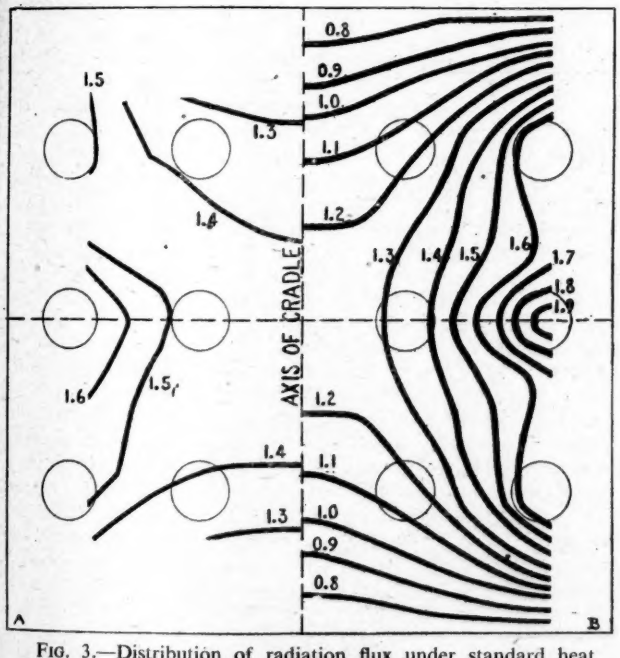

FIG. 3.—Distribution of radiation flux under standard heat cradle with blackened background. The flux is that due to the lamps plus that due to the background. Numerals on contour lines give the amount of radiant energy in calories per sq. cm. received in each minute on a plane 7 in. above base of cradle. A=measured values; B=calculated values. Positions of lamps above plane are represented by circles.

Fig. 3 refers to an ordinary cradle with a blackened background, and the flux at each point is therefore the sum of that due to the lamps and that due to the heated background. In Fig. 4 the flux due to the lamps only is shown; experimentally, this was secured by cooling the metal background. Thus Fig. 4 shows the flux received by the patient immediately after switching on and before the background has had time to heat up, while Fig. 3 shows the very much greater flux received by the patient after the background has had time to heat up and become a source of radiation on its own. The agreement between the measured and calculated values is surprisingly good, and indicates the general correctness both of our line of theoretical reasoning and of our methods of measurement.

A comparison of Figs. 3 and 4 shows that during the course of treatment the flux received by the patient may increase threefold—a fact which brings home the serious danger of overdosage which

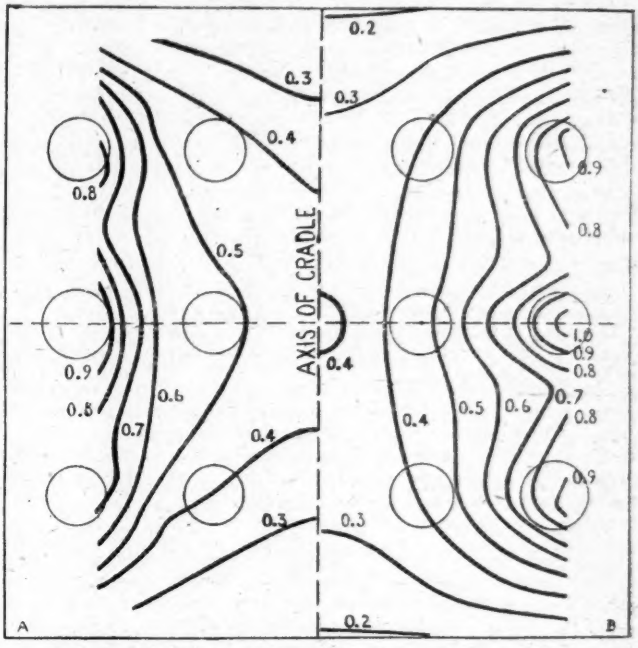

FIG. 4.—Distribution of radiation flux under standard heat cradle with blackened background. Background cooled. Flux due to lamps alone. A=measured values; B=calculated values.

may be incurred if the increase of the power of the source with time is not taken into consideration. It may be remarked that the results of Fig. 4 (no radiation from the background) are very similar to those of Mayneord and Tulley (1943), who excluded the long-wave radiation from the background by the glass envelope of their radiometer.

Some other investigations (results not shown) are of interest. The results of Figs. 3 and 4 refer to the case when the cradle is blackened but the bulbs are not shielded, in contrast to the conditions used in work previously described (Brown, Evans, and Mendelssohn, 1943). In one of the additional investigations the flux was determined with the background left polished and kept cool, and with the bulbs unshielded. The conditions were exactly the same as those for the results of Fig. 4, except that rays from the lamps were reflected from the metal background. The results were almost exactly the same as those shown in Fig. 4, which means that the reflection of rays from the polished background is of very little importance in producing the distribution of flux received by the patient.

We also determined the flux in a cradle in which the background was blackened and not cooled, and in which the lamps were covered with thin metal shields. The average value for the flux in this case was about 1 calorie per square centimetre per minute, and the flux was extremely uniform all over the cradle area.

All these results, and particularly the preponderant part played by the radiation from the cradle background, represent a gratifying confirmation of our first rough analysis of the action of heat cradles.

Conclusion

The thermo-radiometer used by us is essentially a laboratory instrument, but it holds out good prospect for development into a simple radiation-flux indicator for clinical use. When this problem of accurate estimation of total flux has been solved the next step must be to devise an instrument capable of differentiating flux received by the patient in different wavelengths—i.e., an instrument capable of assessing the quality of radiation.

Meanwhile, a great deal can be done by an accurate determination of the total radiation flux received under various conditions from standard treatment lamps, and thus to ensure

more reproducible and better-defined conditions of treatment by infra-red rays. There remains, of course, the great and complex problem of the physiological action of heat radiation. Here again the position is much more difficult than in the case of *x* rays. Whereas *x* rays are more or less uniformly absorbed by the tissues, in which they produce chemical changes, the action of infra-red rays results mainly in an increase in temperature produced near the surface of the skin, which is counteracted by perspiration and by dissipation of the local increase in temperature by the circulation. While a certain amount of information as to the penetration of infra-red radiation exists, little is known about the specific action of heat radiation under clinical conditions. As has been pointed out before (Brown and Mendelssohn, 1944), the physiological action of a given type of heat radiation is likely to be quite different in local and in general administration. The greatest need is for clinical observations of the effects of infra-red radiation administered in known quantities and under well-defined conditions, and we hope that the considerations advanced in this paper will aid the clinician in establishing conditions of treatment which will provide a sound physical basis for the study of clinical observations.

Summary

The physical factors involved in the clinical application of radiant heat have been enumerated and discussed. Computation of dosage based on the consideration of the nature of the treatment source is liable to grave error and should be discouraged. Treatment should be based on the direct measurement of radiation flux—i.e., the amount of radiant energy received on the surface of the patient's skin. The methods by which such measurements may be made have been discussed, and one particular radiometer has been described and recommended for clinical use.

Dangerous overdosage may be caused by: (*a*) neglect of the fact that the radiation from almost all treatment sources increases during the time of application; (*b*) attempts to determine the flux received by the patient with unsuitable radiometers which yield results far below the true values.

We should like to thank Prof. L. J. Witts for his interest and suggestions, and for the provision of experimental facilities during part of this investigation.

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RADICAL OPERATION FOR VARICOSE VEINS

BY

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To call an operation for varicose veins radical is a substantial claim, especially when the ingenious and occasionally heroic procedures of the past are recalled—e.g., multiple ligatures and excisions, the Trendelenburg operation with and without excision of the prominent veins, the stripping operation, injection therapy, etc. Since 1930 the operation of simultaneous ligature and injection in various forms has been developed and reported (Dodd and Oldham, 1940; Dickson Wright, 1940). I started in 1932, and this article details the position after over 500 operations which a follow-up has shown to merit the term "radical." Since 1939 modified procedures have been described which give good immediate results, but, in my experience and that of others, recurrence takes place in three months to three years, and these easier methods are not advised (Russell, 1941).

The radical operation for varicose veins premisses several factors. First the veins must be varicose—that is, they must be distinguished from compensatory veins which have developed in response to thrombosis of the deep conduits. Then, having decided that the veins are varicose, the type must be diagnosed, so that the correct radical measure can be chosen. There are at least seven varieties of varicose veins which require operation to cure; most of the remainder will respond to efficient injections. The types of varicose veins are diagnosed as follows, depending on incompetence of the valves in or at: (1) the termination of the great saphenous vein; (2) the termination of the external saphenous vein; (3) the internal and the external saphenous veins coincidently; (4) the communicating veins between the deep and superficial venous systems of the leg (which normally allow blood to flow inwards); (5) the communicating veins between the deep and superficial venous systems, plus (1); (6) the communicating veins between the deep and superficial venous systems, plus (2); (7) the communicating veins, plus (3).

The radical operation consists in the permanent obliteration of the varicose veins. It is achieved by a combination of ligatures and division at the termination of the internal or external saphenous veins or of the communicating veins, and thrombosis and sclerosis of the varices by injection of an effective and adequate amount of sclerosing agent at the same time. These two factors—i.e., the agent and its volume—are determined by the grossness of the veins to be destroyed.

Radical Operation for Varicosity of Internal Saphenous Vein

This is the commonest presentation, and the plan to be detailed often suffices for the occasional associated incompetence of the communicating veins, particularly those in the thigh.

The Anaesthetic.—A local or general anaesthetic is admirable; a spinal gives pleasantly empty veins and the patient stops in bed for 24 hours. In my practice patients get up the night of the operation, and thereafter morning and evening for lengthening periods, the object being to avoid pulmonary embolism and to keep up muscle power.

The operation necessitates incisions in the groin and at the internal malleolus at the ankle. The grossest veins require a third ligature, injection, and division above the knee. The veins are exposed, tied, and divided, and 20 to 40 c.cm. of 30% saline is injected downwards at the groin and upwards at the ankle. The result is a firm sclerosis of the internal saphenous system, and in some cases of varicose veins in the external saphenous area as well. The thrombosis is palpable before the patient leaves the operating-table, so that the adequacy of the operation is apparent.

Technique of the Operation

The Landmark of the Incision.—The incision runs 1/4 in. below and parallel to the natural fold of the groin. It is 2 to 3 in. long, according to the obesity of the patient. Its centre lies where a line dropped from the pubic spine at right angles to the fold of the groin intersects the incision. The location of the internal saphenous vein is somewhat variable, but this exposure leads immediately to it. The centre of each lip of the wound is seized and forcibly elevated and retracted. This stretches the subcutaneous tissue and makes it possible to cut steadily through the two layers of subcutaneous fascia to expose the vein. The internal saphenous vein—recognized by its large size—is dissected "nude" with the scalpel until its three upper and occasionally one or two downward branches are revealed and also until the inward turn of the main trunk to join the deep femoral vein is defined.

Saphena varices are notoriously friable and are handled fondly like old china. The branches are tied and divided between ligatures. The common femoral vein is exposed sufficiently to ensure that the lower part is patent; the operation is abandoned if it isn't, for then the internal saphenous vein must be compensatory. The end of the saphena magna at its union with the femoral vein is tied with stout thread; to tie it distal to this point leaves a cul-de-sac of vein in which a thrombus can form and pass into the main venous system, with undesirable pulmonary embolism.

An Abnormality.—Occasionally what appears to be the internal saphenous vein is small; this stimulates the search for a duplicate vessel which may lie underneath separated by a layer of fat or occasionally parallel in the same plane of fascia. The common femoral vein, which may be mistaken for it, is recognized by its size, its straightness, the depth at which it lies, and the pulsation of the femoral artery adjoining it. I have once tied and injected the femoral vein, and on two other occasions have had the ligature around it, discovering the mistake only just in time. A good exposure is the best preventive.

The great saphenous vein collapses on ligature, as its content is mainly a regurgitation from the femoral vein.

The Injection.—The distal portion of the vein is injected with 20 c.cm. of 30% saline, making sure that the fluid does go into the lumen and that it is not put into the deep tissues, which results in gross sloughing and delayed healing. A less effective alternative is 5 to 10 c.cm. of ethamolin. When injecting some veins they dilate and the sclerosing fluid sprays out alongside of the needle, indicating that the terminal valve in the collapsed vein has become competent. In this event the technique is as follows:

The lower end of the exposed vein is clipped with a haemostat. Another ligature is passed loosely round the centre of the exposed vessel. The varix is half divided by a scalpel between the two ligatures, and an olive-headed needle or ureteric catheter is threaded into the vessel. When the head is beyond the lower ligature, this is pulled tight to avoid bleeding, and the forceps is removed. The long needle or catheter is introduced gently down the internal saphenous vein. These instruments hitch occasionally on the valves, but manipulation disengages them and allows 10 to 18 in. of the vein to be traversed. Handling should be dainty, to avoid poking the instrument through the venous wall, when gross sloughing occurs. The concentrated saline (30%) is injected through the olive-headed needle (it fits a Record syringe) or ureteric catheter, slowly withdrawing it while doing so and avoiding leakage of the sclerosing agent from the vein. If the anaesthetic is local infiltration a painful spasm follows. The needle or catheter is now removed and the lower ligature tied.

Transfixion Stitch.—When the internal saphenous vein is divided there is no valve between it and the right side of the heart, so that a torrential haemorrhage follows if the proximal ligature slips. When this happened once, seven pints of blood were required to restore the loss. This danger is minimized by a second tie, transfixing the stump with fine thread in the same way that a hernial sac is secured. The wound is cleaned, especially when it has been soiled with the injection; the dead space is obliterated; and the skin is closed accurately and a pressure dressing applied.

Ligature of Internal Saphenous Vein at the Ankle

The internal saphenous vein at the ankle lies in a groove at the anterior border of the internal malleolus intimately bound to the deep fascia; it is important to find the great saphenous vein and not a large superficial radicle. An incision 1 in. long is made over the front edge of the internal malleolus, and the lips of the wound are opened and elevated. In some females fat overlies the vein, but usually it is visible through the deep fascia and is picked up, cleaned, and tied at its lower end. A loose ligature is passed round the upper end. The vein is half cut through transversely and the olive-headed needle or ureteric catheter is inserted upwards very gently. Sometimes the ureteric catheter will pass when the needle won't, and vice versa. They frequently hitch where a large communicating vein joins. The delicate introduction is essential, otherwise the needle or catheter may be thrust through the wall of the inelastic vein and the sclerosing fluid be inserted into the subcutaneous tissue, causing a huge slough of the skin, fat, and deep fascia that requires months to heal. The catheter or needle is withdrawn during the introduction of 20 to 30 c.cm. of 30% saline. Soiling of the wound must be avoided. The upper ligature is tied and the vessel divided. The skin is sutured accurately; it unites slowly in this area, especially if pigmented or eczematous or ulcerated.

The Dressing.—A pressure dressing is put on both wounds. Skill is required, and asepsis must be good, for suppuration and dermatitis will incapacitate otherwise fit men and women for weeks or even months.

Ligature above the Knee

When saline 30% is used the varices are palpably thrombosed at the end of the operation. Should those about the knee not be solid, a third ligature of the internal saphenous vein above the knee is required. The vessel is exposed on the antero-internal aspect a hand's breadth above the joint line, and a ligature is applied. If the upper section is solid nothing further is necessary, but if it is fluid 5 c.cm. of saline 30% will make sclerosis certain. Below the tie 5 to 15 c.cm. of the hypertonic saline is put in it either through a hypodermic needle or through the olive-headed needle or catheter, managed as before. Then the vessel is again ligatured and divided. The wound is closed.

Ligature of External Saphenous Vein

The Anatomy.—The external or short saphenous vein perforates the deep fascia about the lower part of the popliteal space and runs under it until it reaches approximately the bend of the knee-joint, where it turns in deeply and joins the popliteal vein, usually 1/2 to 1 in. higher. *Gray's Anatomy* points out that "the mode of ending of the short saphenous vein is subject to considerable variations. It may join the long saphenous vein in the upper one-third of the thigh or may divide into two branches, one of which joins the long saphenous vein, the other the popliteal vein or the deep posterior veins of the thigh. Occasionally it ends below the level of the knee-joint, in the long saphenous vein or in the deep muscular veins of the calf."

Technique of Operation.—The patient lies on the face. Originally the incision was longitudinally over the line of the vein and was extended up or down as required, but this often heals indifferently, sometimes with a thickened and sensitive scar. The incision made in the central transverse crease behind the knee is better. A sandbag under the foot produces a slight laxity of the otherwise tight gastrocnemius muscles. The incision is deepened through the deep fascia. The external saphenous vein lies surrounded by fat in the groove between the inner and outer heads of the gastrocnemius. It may be duplicated or triplicated, and the sural branches of the internal popliteal nerve may be closely associated. A deep dissection is required, and the successful complete exposure, ligature, injection, and division can be a major surgical exercise. The union with the popliteal vein must be exposed, and the associated branches divided between ligatures. The vessel is ligatured and injected similarly to the internal saphenous vein in the groin, giving meticulous attention to technique. No further ligature or injection is needed for the external saphenous drainage area.

Incompetent Communicating Veins

Occasionally the communicating veins between the superficial and deep systems are so gross as to require deliberate exposure and division of the connexion and repair of the considerable defect in the deep fascia. These points usually lie at the lower inner third of the thigh and at the leg on the inner surface. They are located by palpation with the help of the finger, when the elastic varix and the hole in the deep fascia are felt, or, after emptying the veins, by moving two tourniquets closer together on the limbs and watching the vessels fill up.

In the average case of incompetent communicating veins ligature and injection at the groin and ankle or of the external popliteal vein behind the knee suffice to obliterate them. In the lower third of the leg the inefficient communicating vein may be so large and the pressure in it so great that direct attack is required. In fact, the already-described procedure, by obliterating a large part of the superficial venous systems, has the effect of increasing the content of the deep veins and thereby the pressure in the communicating veins. The clinical result in large communicating veins is more swelling and pain in the lower third of the leg than before the operation, which may raise the suspicion of obliterated deep veins. It is usually this which explains the recurrences after the operation. A hint of a marked communicating vein of the leg is given by pigmented skin, oedema, or ulcer in the lower inner third of the leg.

The Remedy.—The treatment of the communicating veins consists in finding them, dividing them between ligatures, and closing the hole in the deep fascia. They are located in one of two places on the inner surface of the leg—either 2 to 3 in. above the tip of the internal malleolus or at the junction of the middle and lower thirds of the leg. Their position is determined by palpating systematically over the skin, when elastic sensation and a defect feeling like a button-hole in the deep fascia are found. One or two demonstrations soon give the peculiar experience. The incision is made vertically over the area. There are usually a few overlying small varices, and bleeding is copious. The deep fascia is exposed and the penetrating vein will be located coming off at an unexpected

angle. It is divided between ligatures, and the slit in the deep fascia is closed. The skin in these conditions heals poorly; it is often eczematous, or there may be adjoining ulceration. One stitch and a firm pressure dressing only are required, and patients stop in bed until healed, getting up morning and evening for lengthening periods. The results are excellent.

The communicating veins in the lower third of the thigh seldom call for direct attack, and are settled either by incision, ligature, and injection of the groin or by a similar procedure to the internal saphenous vein, 3 to 4 in. above the knee on its antero-internal surface.

Subsequent Injections.—In the majority of cases no further treatment is required, but occasionally small areas of veins remain patent, and these respond to immediate injection by ethamolin or quinine and urethane, 2 to 5 c.cm. of each. Sodium chloride 30% is not used for ordinary injection because gross sloughing follows if a few drops leak outside the vein.

Conclusion

The radical operation for varicose veins depends on the pathology and diagnosis of the varicosities. There are two types of varicosities: those due to loss of elasticity of the internal and external saphenous venous system with incompetence of the valve guarding their terminations, putting the superficial veins in direct communication with the right side of the heart, and those due to enlargement of the communicating veins between the deep and superficial venous systems—these are mainly at the lower third of the thigh and leg.

There are seven main diagnoses made up of combinations of these.

Up to five small but essential operations are required to cure the varicose veins in a limb.

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SULPHONAMIDE ALLERGY

THE PERSISTENCE OF DESENSITIZATION

BY

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There are two types of allergic sensitivity which can arise during sulphonamide therapy—according to whether the drug is taken internally or is applied to the skin. The internal type may take many different clinical forms, of which fever, morbilliform erythema, and leucocytosis are the commonest features. In the cutaneous type the reaction is an eczematous dermatitis. In either case violent reactions are apt to follow administration by mouth, and one question which comes up is, Can these people be desensitized as a safeguard for the future?

The answer is that they can. Schlesinger and Mitchell (1938) reported that cases of sulphanilamide fever and rash cleared up in three or four days even though the drug was continued, and that one such case was followed up two months later and found to be insensitive. In 1942 Erskine stated that allergic cases could be desensitized either by keeping on with full doses at the time of the reaction or by giving ascending doses at a later date. In a previous report (Park, 1944) on a patient who developed sulphapyridine neutropenia and was still sensitive after three months, details of a successful desensitization were given.

In the eczematous type desensitization was introduced by Tate in 1943 (personal communication), either at the expense of a severe reaction by full doses over about four days or by smaller doses for about three weeks, causing milder reactions.

Methods Used

My experience over the last 18 months has been that desensitization has been consistently successful in these allergic states. The drug has been given in all cases by mouth, in four or five divided doses per day—enough to keep up a fairly constant level in the blood stream. Beginning with an amount too small to cause a reaction, the dose is doubled each day until a mild reaction appears. It is then kept the same until all symptoms have subsided, when it is again increased.

The two forms of allergy differ sharply in their response to desensitization. In the internal type, in which the first sign of a reaction is a rise in temperature, it is usually possible to start with 0.1 g. at each dose, doubling up daily to reach 1 g. in four or five days. More sensitive cases, such as the one reported below, take longer; the most sensitive one yet encountered had to start with 0.005 g., and took nine weeks to work up to 1 g. In the eczemas this high degree of sensitivity is the rule. The average case takes about six weeks to desensitize if the dosage is kept below reaction level.

The next question which springs to the mind is, How long does this benefit last? Does the allergic state return in the way that it does each season after hay-fever desensitization, or is it permanent? This question has not been answered up till now, and it is only from its answer that we can learn whether this desensitization to sulphonamides is really worth while. The following case is reported as a single pointer to the possible solution of this problem.

Case Report

Sapper X., aged 40, began treatment for chancroid with sulphanilamide on July 21, 1943, taking 1 g. four times a day. On the sixth day his temperature rose to 103° F. and he developed a general morbilliform erythema, showing no tendency to photosensitivity. It was slightly irritable. He complained of pains in the knees and other joints, but there were no objective findings. The drug was stopped at once. He gave a history of having received sulphapyridine for pneumonia six months previously without any reaction. On successive days his temperature reached peaks of 103°, 101.6°, and 100° F. A leucocyte count showed a total of 10,000. From July 30 onwards he was afebrile. On Aug. 8 he was put on divided doses of 1 g. of sulphapyridine. A few hours after the first dose he developed a temperature of 101° F. and further joint pains, but no rash. The fever lasted 48 hours.

Desensitization with sulphanilamide was started on Aug. 8 with four doses per day of 0.125 g. After two doses, however, he again reacted with a fever up to 102° F., a recurrence of the rash, and further joint pains. The drug was stopped and his symptoms subsided. Sulphanilamide was continued as follows:

Date	Doses per Day	Amount (g.)	Result
Aug. 11	4	0·02	No reaction
12	4	0·04	,, ,,
13	4	0·08	,, ,,
14	4	0·125	Fever of 99·6°
15	3	0·125	,, 101·6°
16	Nil		Still febrile
17	,,		Almost afebrile
18	,,		Afebrile
19	,,		,,
20–22	4	0·02	No reaction
23–24	4	0·04	,, ,,
25–26	4	0·08	Mild reaction
27–28	4	0·04	No reaction
29–30	4	0·06	,, ,,
Aug. 31–Sept. 2	4	0·08	,, ,,
Sept. 3–5	4	0·125	,, ,,
6–11	4	0·15	,, ,,
12–14	4	0·19	,, ,,
15–16	4	0·4	,, ,,
17	4	0·5	,, ,,
18	4	0·6	,, ,,
19	4	0·75	,, ,,
20	4	0·9	,, ,,
21	4	1·0	,, ,,

He was discharged from hospital and nothing more was seen of him until Sept. 1, 1944, when he reported at the V.D. Dept. to have a routine injection for syphilis, which he had contracted in the meantime. He gave the story that in June, 1944, he developed a sore on his penis. At this time he was given sulphanilamide in seven doses of 1 g. over two days. This caused a febrile reaction accompanied by a recurrence of his previous symptoms, subsiding in two or three days. A diagnosis of syphilis was then made, and from that time he had been receiving weekly N.A.B. and bismuth.

He was brought in for further investigation and given the following drugs:

Sept. 3, sulphathiazole, 1 dose of 1 g.
,, 4, ,, 4 doses of 1 g.
,, 6, sulphapyridine, 1 dose of 1 g.
,, 7, ,, 4 doses of 1 g.

No reactions to the above were seen. On Sept. 9 a dose of 1 g. of sulphanilamide was given, and caused a pyrexia up to 100° F., with the same pains in the joints. This was confirmed by a similar reaction the next day to a dose of 2 g. On Sept. 12, 13, and 14 single doses of 3 g. each of sulphapyridine, sulphathiazole, and sulphanilic acid respectively were given, with no reactions. At this stage he had to leave hospital urgently for other reasons, and it was not possible to give him any further desensitization.

Discussion

To sum up, this patient developed a highly allergic state during sulphanilamide therapy, so that he reacted to as little as 0.25 g. with a sharp pyrexia. He was also allergic to sulphapyridine in a lesser degree, with a milder reaction to a dose of 1 g. Desensitization took six weeks, but succeeded in working him up to full doses without reaction. Nine months later he apparently had a reaction to further full doses.

Reinvestigation one year after desensitization showed mild reactions to doses of 1 g. and 2 g. of sulphanilamide, but none at all to doses up to 3 g. of other sulphonamides. His allergy had therefore partially returned, but only to a fraction of its original level.

If we may be allowed to theorize on the possible immunological mechanisms underlying this and other drug allergies, the following working hypothesis would fit the facts as they are at present known. In some people sulphonamides stimulate the formation of antibodies. These will then unite with future doses of the drug to cause allergic reactions. Their formation goes on after the drug has been stopped, but gradually tapers off and finally stops. Small desensitizing doses will use up these antibodies and abolish the allergic state. If desensitization is carried out before they cease to be formed, the allergy may partly recur; but if an interval is allowed to elapse before starting desensitization, it may be expected to be permanent. It now remains for this hypothesis to be tested in practice.

Summary

Desensitization to sulphonamides has been a consistent success by the method described.

An opportunity of following up a densensitized case showed that allergy had returned after one year to only a fraction of its former level.

There is theoretical reason to believe that if such cases are left for a time before being desensitized the benefit may be permanent.

I wish to thank the Director of Medical Services, 2 N.Z.E.F., for permission to publish this report.

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PENICILLIN IN CIVILIAN PRACTICE

BY

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Supplies of British-made penicillin have now been available for civilian use for three months, being distributed by the Ministry of Health to the Deans of Medical Schools and, through them, to their own and associated hospitals. An indication of the types of case which have received penicillin from one centre might be considered to be of general interest.

Forty million units of penicillin a month were allotted to this centre, and the administrative heads of 43 hospitals were circularized, but, largely owing to the publicity given in the Press to the fact that supplies were limited, the amount asked for in the first month was only 3 million units; in the second month it rose to 13.5 million units, and in the third month to 22 million units. No request for penicillin was refused in cases in which the infection was caused or was probably caused by a sensitive organism, and systemic treatment when needed was as a rule started before full laboratory investigations had been carried out, although in cases in which local treatment was indicated penicillin was usually withheld until a sensitive organism had been isolated. It was suggested that for systemic treatment the penicillin should be given as a continuous intramuscular drip, using 100,000 units a day dissolved in a pint of saline and administered into the outer side of the thigh. In each case 5 days' supply was provided.

Conditions Treated

Cases receiving penicillin comprised 15 of osteomyelitis, 5 of staphylococcal pyaemia, 2 of brain abscess, 2 of sulphonamide-resistant gonorrhoea, and 1 case each of staphylococcal orbital cellulitis, staphylococcal jugular phlebitis after mastoidectomy, streptococcal puerperal septicaemia, septic abortion, actinomycosis, pneumococcal meningitis, staphylococcal meningitis, salpingitis of undetermined aetiology not reacting to sulphonamides, generalized staphylococcal pyodermia, postoperative pneumonia of doubtful aetiology not reacting to sulphonamides, staphylococcal pericarditis, suppurative pneumonitis with multiple small abscesses demonstrated in radiographs of the chest (this patient subsequently had a pneumonectomy performed with success), and a case of severe human bite which showed a mixed flora, including *Staph. pyogenes*, *F. fusiformis*, and an anaerobic streptococcus.

Local treatment was employed alone in 50 cases of staphylococcal skin infection, mainly sycosis barbae, 20 cases of staphylococcal infections of the hand, 5 cases of staphylococcal or pneumococcal conjunctivitis, 4 cases of pneumonectomy or lobectomy to prevent post-operative empyema, 4 cases of empyema—one being a case of tuberculous empyema with an associated staphylococcal infection—2 cases of staphylococcal carbuncle, and 1 case each of infected gangrene of the foot, streptococcal arthritis of the shoulder-joint, and generalized peritonitis secondary to a perforated gangrenous appendicitis.

Results

A number of these cases will no doubt be reported in detail by individual clinicians, but certain general conclusions emerge from the series as a whole. The results of penicillin treatment have confirmed the findings of earlier clinical trials: very serious staphylococcal infections, such as meningitis and pyaemia with a high colony count in the blood culture, have been cured, but two patients with multiple lung abscesses died. In very early cases of osteomyelitis it was possible to bring about apparent cure without operative intervention, but in those seen late in the disease penicillin seemed to have disappointingly little effect. It is therefore more than ever necessary for practitioners to get cases of osteomyelitis into hospital at the earliest possible moment. The cases in which the bacteriology was unknown—viz., those of salpingitis, postoperative pneumonia, and septic abortion—all did badly; as would be expected, the result of the administration of penicillin without bacteriological control is likely to prove unsatisfactory. The case of human bite improved rapidly under general and local penicillin treatment. The patient was a negress who had been bitten on the thumb by a negro, and, as Boland (1941) showed, these bites carry a high morbidity rate due to spreading cellulitis. In this case the patient was treated with injections of 20,000 units every three hours and with local penicillin cream; the inflammation remained localized, and she was discharged from hospital in 27 days. One patient complained of considerable local pain when being treated with a continuous intramuscular drip; it was noted that blood concentrations of penicillin were lower than usual, and at necropsy there was evidence of considerable muscle damage.

Systemic Treatment.—The number of patients for whom penicillin was requested for systemic use was the same in the second and the third months in which supplies were available, although in the latter, owing to increasing supplies, greater individual doses were prescribed. It is probable, therefore, that, although spectacularly successful in suitable cases, the number of patients in hospitals needing systemic penicillin is by no means large, and the total quantity which will be used even when supplies are freely purchasable will be smaller than many of us expected.

Local Application.—The general practitioner will find local penicillin treatment of great value in suitable cases of conjunctivitis and staphylococcal skin diseases. For conjunctival instillation the solution of 1,000 units per c.cm. is less painful than the application of penicillin cream, but for sycosis the lotion was less effective than the cream; this was prepared according to the formula of Clark *et al.* (1943), and results from

all hospitals have been excellent. For infections of the hand the instillation of the solution at a concentration of 1,000 units per c.cm. seemed to be more effective than the cream; but dressings have to be done more often, and were more painful. Small boils were successfully aborted in 24 hours by injecting 0.1 c.cm. of a strong solution of 10,000 units per c.cm. into the boil; the treatment, however, is painful, and not more than 0.1 c.cm. should be injected at a time. Local application uses up comparatively small quantities of penicillin.

Comment

Penicillin cream is certain to be used very widely in civilian practice, and the difficulty that practitioners and pharmacists have encountered was largely in the preparation of the sterile lanette wax and castor-oil base, which has to be autoclaved. This can, however, be prepared in bulk, and will keep indefinitely; when needed, the appropriate amount can be melted, cooled to 60° C., and the penicillin solution added to make a final concentration of 200 units per gramme.

It would be a great advantage if supplies of sterile cream base were available from a central store so that pharmacists and practitioners in small hospitals could make up their own penicillin cream as they needed it. A self-sterilizing cream would be very desirable, but until this is available it is essential that practitioners supplying patients with penicillin cream for application at home to a skin lesion should be careful to provide them with precise instructions on how to remove the cream from the jar with reasonably sterile precautions. We have found it satisfactory to tell patients to immerse the blade of a metal-handled table-knife in boiling water for five minutes and then cool it under a freely running cold tap; the cream is removed without delay, and the knife is not replaced in the jar without resterilizing. The tablets of penicillin proved to be easier to handle and more economical in use than the ampoules in which American and Canadian penicillin is dispensed. If in the future British penicillin is to be sold in ampoules it would be of considerable advantage if the glass used were soft enough to be cracked without considerable effort or, better still, if the substance could be dried in a bottle or ampoule with a rubber seal in order that the reconstituted solution could be removed in small quantities with a syringe and needle.

Summary

The types of case in which penicillin is likely to be of value in civilian practice are indicated by the conditions treated in the first three months in which British penicillin was freely available.

The general practitioner will probably use penicillin cream locally more often than any other preparation of the substance.

Sterilized penicillin cream base should be available to practitioners and pharmacists, who will then be quite capable of making up the cream from penicillin tablets.

With adequate instruction patients can carry out treatment of skin conditions with penicillin cream quite successfully in their own homes.

The consumption of penicillin is largely conditioned by the number of cases needing systemic treatment, and this was smaller than was anticipated.

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The third annual report of the North-Eastern Regional Hospitals Advisory Council contains as an appendix a report by Prof. J. C. Spence on the Durham University department of child health at the Royal Victoria Infirmary, Newcastle-upon-Tyne, which opened up in 1943. The main work of the children's clinic is the medical consultation service provided each afternoon in sessions held by experienced children's specialists. In collaboration with the health department of the Newcastle City Council a child welfare clinic was placed in the new department and opened in May last to serve as a training centre for doctors and nurses taking up this work. The main in-patient clinical work of the department is carried out in the children's wards of the Royal Victoria Infirmary, with additional wards in the Babies' Hospital. The teaching of undergraduate students in child health and clinical paediatrics is now established. It is intended that research shall become one of the chief features of the department's activities; already several important lines of research are being pursued.

Medical Memoranda

A Case of Exomphalos complicated by Acute Intestinal Obstruction

The following notes of a case of exomphalos which has come under my care may prove of interest.

CASE REPORT

At noon on Dec. 14, 1943, I was called to a ward where a Munyarwanda woman had just given birth to a male child with exomphalos. The proximal portion of the cord was in the form of a bag covered with translucent amniotic membrane. It was about the size and shape of a large lemon, and through the membrane covering coils of small intestine could easily be made out. The sac was attached to the abdomen by a skin-covered pedicle 1 in. in length and 1 in. in diameter. In all other respects the infant appeared normal and strong. The cord was ligated and severed distal to the sac.

At 3 p.m., three hours after birth, I performed an operation. Naturally the question of the most suitable anaesthetic arose. Langton Hewer states that in acute abdominal conditions in young children the techniques involving local and spinal blocks show a higher mortality than general anaesthesia. Lambert Rogers (1941) operated upon a very severe case of exomphalos 20 minutes after the birth of a baby. In this case the operation was so near the birth that he felt it might be considered a mere prolongation of normal birth trauma, and consequently used no anaesthetic. The child suffered no shock, respiratory distress, or other complication. Three hours was perhaps too long after birth to consider a severe operation as a prolongation of the physiological process of birth. Carman (1941), after operating on a 4-day-old baby for strangulated hernia, reported favourably on ether and oxygen as the anaesthetic agent, after premedication with atropine 1/200 gr. I had no ether or oxygen available. However, Ley (1942), in reporting a successful operation in a case of severe exomphalos on a baby 10 hours old, stressed the value of pure chloroform anaesthesia for abdominal sections in very young children. Accordingly I instructed my comparatively inexperienced native orderly to administer pure chloroform.

A transverse incision was made, as in Mayo's operation for umbilical hernia, through the skin and subcutaneous tissue. The inner layers of the neck of the sac consisted of tense, tight fibrous tissue, and so the superior-anterior surface of the sac itself was incised and the sac opened. It was seen to contain almost the whole of the small intestine, the coils of which were very congested indeed, and I was in doubt whether one of the coils was viable or not. The umbilical vessels were found on the inferior wall of the sac; these were carefully ligated and tied, and the sac was then opened completely. As the opening through the neck was so tight it was obviously impossible to attempt the return of the bowel through it. The fibrous ring was therefore cut. At this stage, the anaesthesia being light, the child strained and almost the rest of the bowel prolapsed. The normal pink colour of the freshly prolapsed coils was in marked contrast to those already seen. There was a distinct compression ring on the two coils which had been constricted in the neck.

Smellie, in Ley's case, was compelled to use "deep chloroform anaesthesia." As it was found impossible to replace the intestines under light anaesthesia I instructed the orderly the push the chloroform. This was done; but very soon, in spite of the constant use of towels wrung out in hot saline, the child became cold and clammy and its breathing very intermittent and gasping, like that of a baby just born with asphyxia neonatorum. I did not think it could survive the rest of the operation. With difficulty the bowel was replaced. The abdomen was closed with one purse-string suture through the peritoneum and fascia, and the skin with interrupted silkworm-gut sutures. The apparently moribund child was returned to the ward wrapped in cotton-wool, surrounded with hot-water bottles, and placed with its head low down. The operation had lasted about 1¼ hours.

To my amazement the child rapidly recovered. That night it vomited only once. It almost immediately started taking the breast, passed water normally the first night, and had a normal action of the bowels the second night. With the exception of slight sepsis of the wound, which rapidly responded to fomentations and sulphanilamide powder, it made a complete and speedy recovery. The weight of the baby was 6 lb.

DISCUSSION

Exomphalos, when a true sac is present, is a very rare condition, with a high mortality rate; but the above case, and more especially those reported by Lambert Rogers (1941) and Ley (1942) show that even marked degrees of this abnormality are viable if submitted to operation at once. Sheldon (1936) states: "Operative treatment is usually required, but, in the absence of intestinal obstruction, conservative treatment, by simply protecting the sac from injury, has been followed by slow natural repair." Intestinal obstruction is always a serious condition, and the younger the patient the more serious it is. Therefore a conservative treatment which awaits the signs of

obstruction seems one that is likely to deprive the infant of that chance of survival which surgery can give it. A further reason against expectant treatment is, as McGavin and Choyce (1932) pointed out, that the avascular amniotic membranes slough and rupture, leading to a factitious ectopia of the viscera and resultant death from shock or sepsis.

Brailsford (1939) has drawn attention to the possibility of diagnosing antenatally several of the severe forms of congenital deformity by a radiograph of the foetus. In a case of exomphalos he noticed a marked shortening of the spinal column. In the present case, in Lambert Rogers's, and apparently in Ley's, no such shortening was present, so that the absence of shortening in a foetal radiograph certainly does not indicate an absence of this deformity.

I would like to pay tribute to the splendid anaesthesia given by my native boy and, in doing so, to state what fine anaesthetists and nurses our comparatively uneducated Banyarwanda boys make. With their services as anaesthetists and assistants there are very few surgical procedures which we are unable to tackle in our lonely and primitive hospital.

Gahini, Ruanda, Central Africa.

T. B. L. BRYAN, M.B., B.Chir., Medical Officer in Charge of C.M.S. Hospital.

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Muscle Spasm apparently due to Lack of Sodium Chloride

The following report may help other doctors who have to deal with a similar case.

CASE REPORT

At 12.15 a.m. on Aug. 10, after a week of increasingly hot weather culminating in an extremely hot day and night, I saw a boy of 17 years with the following history and condition. He had gone to bed at 10.30 p.m. on Aug. 9 feeling weak and poorly, and, like everyone that night, sweating freely. At about 11 p.m. he began to have "pins and needles," first in the arms, later also in his legs and face, followed in about ten minutes by a mild attack of cramp in each biceps humeris lasting a moment or so and passing off. Some ten minutes later another attack of cramp involving more flexor muscles occurred, passed off, and so on, each attack being worse and involving more muscles, the "pins and needles" persisting throughout.

When I saw him he was just going into a spasm, which lasted 3½ minutes and at its peak was as follows: The arms were tightly folded as in a swimmer's photograph, fingers clawed, legs in the frog position, head flexed, trunk slightly flexed, face screwed up with pain but not a risus sardonicus, copious sweating, respirations the incredible rate of 50 per minute, pulse forcible and 90 per minute. It was quite impossible to straighten even the fingers.

The spasm left him utterly relaxed and exhausted; temperature 96.4° F.; "pins and needles" present and strong; mind clear throughout. Tetanus and tetany were ruled out; no abnormal signs in chest or abdomen; no rash. Direct questioning elicited "Yes" to "Do you sweat a lot?" and "Do you dislike table salt?" Three teaspoonfuls of sodium chloride in one-third of a pint of warm water was given, and, interestingly, he volunteered that it tasted good; nor was there any nausea. Three minutes later another attack started, but less violent and long. Another drink of two teaspoonfuls to one-third of a pint was given, which, he said, tasted a bit strong. Within 15 minutes of the first drink the "pins and needles" had begun to go, and within 30 minutes had gone. He felt hungry; temperature 97.6° F. I left him eating two huge "doorsteps" of bread and margarine.

Later that day I visited him; he was up, had no physical signs of anything abnormal in the chest, temperature 98° F., and he said he had an appetite for the first time in three weeks.

COMMENT

One must decide, was it an acute shortage of sodium chloride in the blood giving rise to cramp of a most unusual violence and cured by the strong saline draught, or was it something else which had reached its peak as I arrived and went off despite the treatment? I think the former, but unfortunately I did not taste his sweat (it might have been saltless); nor do conditions in a council house encourage taking blood for a sodium chloride estimation when the nearest laboratory is sixteen miles away. There can be no doubt that had the condition not cleared up his heart would not have stood up to the strain for more than another six or seven hours. Also why does this sort of cramp and athlete's cramp always affect the flexor muscles?

Stamford, Lincs. A. H. GREGSON, M.B., CH.B.

Reviews

NEUROSYPHILIS

The Management of Neurosyphilis. By Bernhard Dattner, M.D., Jur.D., with the collaboration of Evan W. Thomas, M.D., and Gertrude Wexler, M.D. Foreword by Joseph Earle Moore, M.D. (Pp. 398. $5.50 or 25s.) New York: Grune and Stratton; London: William Heinemann. 1944.

Dr. Dattner, formerly assistant in the Vienna clinic of Wagner-Jauregg, has written a useful and much-needed book. His subject is one that is common to syphilology, neurology, and psychiatry, and it is good to find it treated as an all-round problem of its own and not one-sidedly as an incidental topic in one of the three major specialties.

The book is well documented, the findings of other workers are culled from far and wide, and useful personal observations are included. There is no rushing at conclusions, and controversial problems are squarely faced. We are glad to see the author's insistence on the importance of spinal-fluid findings in diagnosis and during the early stages of syphilis, and he puts the matter of therapeutic results in true perspective when he stresses negative serology and longevity—and not clinical improvements—as the chief criteria for estimating the efficacy of particular treatments.

One might disagree with certain statements—e.g., that a post-malarial fluid once negative remains so—but these are only minor matters. One criticism that must be made, however, is that little or no space is devoted to flocculation tests. It is high time that the Wassermann were dislodged from its preferential position, and a reference to the greater sensitivity of the Meinicke, Müller, and Kahn tests (to mention a few) would have been welcome; it would, incidentally, have had an important bearing upon the question of the frequency of negative serology after treatment and also upon the likelihood of finding negative blood results in cases of untreated meningovascular syphilis. Moreover, the inclusion of the flocculation tests might have led to a consideration of the all-too-neglected problem of standards of cure—standards of satisfactory progress (beyond which intensive treatment is no longer necessary) which will never be established until we are all agreed as to which tests we will accept.

The book is a timely one, clearly and capably written, and it can be confidently recommended to all concerned in the recognition and treatment of neurosyphilis.

SURGERY FOR STUDENTS

Surgery. A Textbook for Students. By Charles Aubrey Pannett, M.D., F.R.C.S. (Pp. 740; illustrated. 35s.) London: Hodder and Stoughton. 1944.

With the sentiments Prof. Pannett expresses in his preface the majority of surgeons, and, we hope, all surgical examiners, will agree. The gist of the matter is that he believes a textbook for undergraduate students should be the product of a single author, since "it does not seem fair to expect the student to have more exact knowledge than his examiner possesses, or to have read a series of monographs by experts." The specialist may have acquired special facility in technique by confining his work within narrow limits, "but the facts of the specialty and the principles on which he works are within the compass of the general surgeon's wit." The object of the book is "to present the facts of general surgery in as few words as possible"—a very desirable aim in these days of prolixity.

In the application of these principles, however, we cannot help feeling that the author has not been entirely successful. In large portions of the book the condensation has been overdone, which has made it a guide more suited to the nurse or medical auxiliary than to the medical student. It will be accepted, too, that the greater the conciseness the more the need for extreme accuracy, and in this the book unfortunately falls short of expectations. We are, of course, not criticizing legitimate expressions of opinion, but factual statements, as the following examples will show: "The brilliant discovery by Metchnikoff of arsphenamine," although one of the numerous synonyms for "606" is "Ehrlich-Hata compound"; "the secretion of testosterone by the spermatogenic cells": true, it has been

suggested that the spermatogenic cells may have some internal secretion, but all the evidence shows that testosterone comes from the interstitial cells; "a direct hernia never passes into the scrotum": this statement is definitely erroneous, although it has been copied from book to book since it was first made. Then what is the student to do about erysipelas, to which we could find no reference except that it is "indistinguishable from reticular lymphangitis"—a true statement but scarcely sufficient as an answer to an examination question? Perhaps, however, this is now regarded as a medical disease. We consider the index of a student's textbook to be one of its most important parts, yet these 700-odd pages are provided with but 6 of index, so that, to take the above quotations as examples, erysipelas, arsphenamine, testosterone, and reticular lymphangitis are looked for in vain.

There are a good number of line illustrations (unnumbered) of considerable merit. Unfortunately, owing to the printing of the book upon wartime paper, the skiagrams have had to be reproduced as black-and-white drawings, which detracts from their value and may mislead the student when he is confronted with the real article. The whole book gives the impression of having been hastily written, but it is very much to be hoped that future editions will conform more closely to the excellent ideals of the preface.

SEX EDUCATION FOR THE YOUNG

Sex Education. A Guide for Parents, Teachers and Youth Leaders. By Cyril Bibby, M.A., M.Sc., F.L.S. (Pp. 291. 7s. 6d.) London: Macmillan and Co. 1944.

Sex education for the young is very much to the fore at present, and opposition to it from even the most repressed and hide-bound parents is fast disappearing. Not long ago the only education given to the curious youngster was, "When in doubt, don't," without explaining what exactly he was not to do. Any statement was backed by threats of the dire consequences of venereal disease to the body and eternal damnation to the soul. Such methods, however, in no way acted as deterrents and only degraded a subject which should be noble. The most enlightened sex education, on the other hand, will not eliminate all evil, but it will do something to improve the sexual standards of the race.

All facts are best inculcated before puberty—i.e., before 12 years old—in answer to the inevitable questions of the child, as and when they are put, not before or after. In this way he may receive them as he does other facts without emotional bias or prejudice. The author thinks that the teacher, being less emotionally involved, is the best person to give sex education, but others must do their part. In the early years of childhood it is very important that parents should adopt an unemotional attitude towards feeding, excretion, infantile masturbation, and nudity. The chapter on the school curriculum is good, for it shows how all subjects may contribute to sex education, provided a sense of proportion is maintained. The various sex problems which arise in schools are sensibly discussed, such as the emotional changes of adolescence and aggressiveness, while menstruation, night emissions, and masturbation are adequately dealt with. The author notes that many sex-directed activities are not sex-motivated. He points out how theoretical is the idea of sex sublimation, and how seldom is it a really practical and efficient solution. There is a good selection of questions asked by children and young people, and a final chapter on educating the educators. Appendices include a tabulated scheme for sex education, specimen lectures, and a guide to further reading.

This is a practical, useful book, thoroughly to be recommended to all who are concerned with the future welfare of the race.

Notes on Books

Man and his Fellowmen, by SAMUEL LOWY, M.D., is published at 15s. by Kegan Paul, Trench, Trubner and Co. The author is a Czech psycho-analyst who has spent the war period in England. His work on neurotics in several European countries has convinced him that the ills of society are analogous to the ills of his neurotic patients. The innate impulses of hate and aggression cannot be denied, but should be so far as possible controlled and directed into desirable channels. More understanding, more knowledge, will help, as will greater opportunities for the enjoyment of beauty and a wider satisfaction in life, with a freedom from anxiety over the basic necessities for existence. The author does not think that these things can be left to individuals, but that the State must take the initiative in regulating human relationships. While some State regulation of the interactions of employers and workmen would be acceptable to most, many people would jib at the establishment of a Ministerial Department to regulate the inner life of families in the interests of health and happiness, however theoretically desirable this might seem to be in most cases. The chapter on sexuality in its cultural and social aspects is good, and the whole book is distinctly interesting, though, as the author himself admits, no specific concrete proposals are ventured upon.

Salts and their Reactions, by LEONARD DOBBIN and JOHN E. MACKENZIE (Edinburgh: E. and S. Livingstone; 8s. 6d.), is an introduction to chemistry presented in a form which at one time was more common than it is to-day. This form of presentation has the particular merit that the building of knowledge is begun on a foundation already familiar to the student in the facts of everyday life. This is not to say that the scheme of instruction is archaic; it is a scheme which leads in a direct ascent to the most modern considerations and treatment of chemical science. The book does not take the student far beyond the requirements of first examinations, but, providing as it does the directions for a well-selected series of practical experiments, it will prove to be a very useful accessory to the preparatory lectures for entrance examinations.

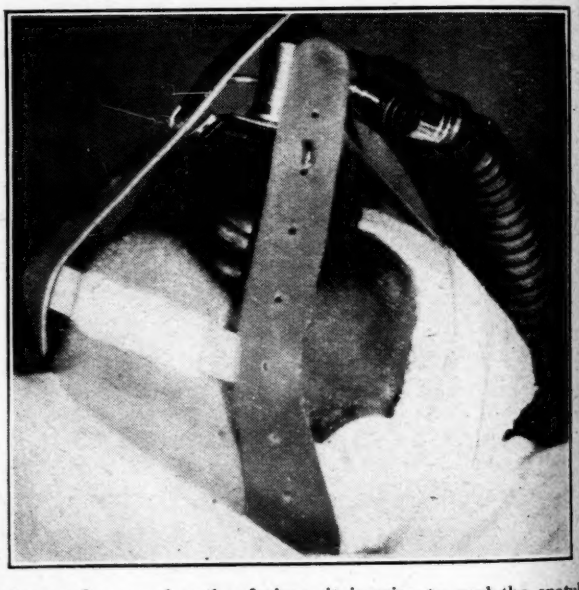
Preparations and Appliances

A USEFUL ADDITION TO THE CLAUSEN HARNESS

Dr. J. MORLAND SMITH, D.A., writes from Stoke Mandeville Hospital, Aylesbury:

A great disadvantage of the Clausen harness is that it fails to support the jaw; in fact, if applied firmly, it often depresses the jaw, causing respiratory obstruction even in the presence of an oral airway. Descriptions of gadgets for elevating the mandible have appeared in the literature from time to time, but I have not yet noticed any mention of the very simple method I am about to describe.

After a three-strapped harness has been loosely applied, a wooden tongue-depressor is placed transversely under the chin, and the two lower straps are stretched to pass over the ends of this depressor (see photograph). If the harness is likely



to be on for any length of time, it is wise to pad the spatula by wrapping a gauze dressing round it, and perhaps to alter its position occasionally. Apart from raising the jaw, the spatula spreads the lower straps, preventing pressure on the facial nerves. If the corrugated tubes and connexion are arranged to lie over the forehead in the mid-line, they do not tend to pull the head to one side but to maintain it in extension.

I have used this device with the harness regularly since 1940, and have found it most helpful, especially for giving pentothal with nitrous oxide and oxygen. Unfortunately, patients are met with whose airway cannot be adequately maintained by this method, despite alteration in pillows and type of artificial airway. I assume that these odd cases would present equal difficulty with most of the other types of jaw support.

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PENICILLIN IN SYPHILIS

It is now a year since the first announcement that penicillin has an action on syphilis. Further information has been awaited with deep interest, because the successful outcome of clinical trials would mean a complete revolution in the treatment of this disease and a far greater likelihood of its ultimate extermination. These hopes are based on the fact that penicillin is for all practical purposes non-toxic, so that a single course lasting about a week, and free from the dangers of intensive arsenotherapy, may prove to be all that is needed to effect cure. The main drawback is that administration has to be continued day and night, and therefore requires admission to hospital. The necessity for continuous treatment presents less difficulty in the armed Forces, and the advantage to them of being able to return a man to duty after so short a period of treatment is paralleled only by the corresponding advantage already secured by the penicillin treatment of gonorrhoea.

Study of the penicillin treatment of syphilis has been pursued extensively and with great vigour and thoroughness in the United States on a plan laid down by the National Research Council, and a series of three reports[1] has now appeared which represent experience at a large number of centres. All the authors are agreed that penicillin treatment causes rapid disappearance of *T. pallida* —usually within less than 24 hours—and rapid healing of primary and secondary lesions. Herxheimer reactions are common, although naturally of little account in superficial lesions. It is also the general experience that all serological tests for syphilis pass through a stage of diminishing positiveness to become negative in a majority of cases usually within 3 months. In a large proportion they have remained negative so far as observation has yet gone; others have shown a tendency to the redevelopment of positive reactions. J. F. Mahoney and his colleagues give examples in the first paper of different types of serological history, as revealed by the performance of ten different tests on as many as twenty or more occasions. They also report the results to date in 100 patients, 4 of whom were the first to be treated: 3 of these have remained clinically well and serologically negative; the fourth has a recurrence probably due to reinfection.

Mahoney, J. E. Moore, Commander W. Schwartz, and Lieut.-Col. T. Sternberg are the authors of a second paper which is based on the work at twenty-three centres, Service and civilian, where 1,587 cases have been treated, 1,418 of which are suitable for analysis. Treatment at all these centres followed a plan, all patients being given 3-hourly intramuscular injections for 7½ days; they were divided into 4 groups in which the individual dose was 1,000, 5,000, 10,000, or 20,000 units. Even the smallest dose caused disappearance of *T. pallida* and healing of lesions, but the smaller the dose the less often did serological tests become negative and the more frequent was relapse. The largest dose employed is therefore now considered the minimum necessary. Slightly better results than any obtained with penicillin alone followed the administration of either 60,000 or 300,000 units of penicillin in all, together with a subcurative dose (320 mg.) of mapharsen. There is clear evidence that the earlier treatment is begun the more certain is its effect. Among patients treated with penicillin alone the frequency of relapse in sero-negative primary syphilis was 3.2%, while in sero-positive primary it was 5% and in secondary 9.8%. In view of this finding it is not surprising that the results of treating late syphilis, which are described by J. H. Stokes *et al.* in the third of these papers, are much more equivocal. Among 182 cases, of which 122 had neurosyphilis, the proportion in which serological tests became actually negative was only 10%, though some reduction in positiveness occurred in about 50%. Clinical improvement and spinal-fluid changes corresponded, about half the patients improving definitely, a few strikingly, and the remainder little or not at all. Herxheimer reactions occurred in 20% and are considered to call for cautious early dosage. The effect on gummata of the skin and bones is more encouraging; these disappear with almost unfailing regularity after only moderate dosage.

It is impossible fully to assess the significance of these findings, in spite of their massive scale and elaborate control, if only because in syphilis time alone can tell. A continued hope that a full single course will cure the disease in the primary stage seems justified, and results may be bettered by improved methods of dosage and administration. It is noteworthy that all these patients were treated by spaced intramuscular injections, and there is no mention anywhere of blood estimations to determine whether an adequate concentration was maintained in the blood throughout the intervals between injections. No one knows what an adequate concentration actually is for attacking *T. pallida*, but it is well known that the concentration falls to a very low level between individual injections. According to I. W. J. McAdam, J. P. Duguid, and S. W. Challinor,[2] to keep the blood continuously bacteriostatic for *Staph. aureus* the daily dose required if given 2-hourly is 120,000 units, if 3-hourly 200,000 units, and if 4-hourly 600,000 units. The same effect can be achieved by giving only 100,000 units by continuous intramuscular drip, and this on general principles would appear to be the method of choice for treating syphilis.

It is a remarkable fact that both principal forms of venereal disease should prove to be amenable to the same drug. To the thoughtless it might even appear highly convenient, in that if necessary two birds can be killed with one stone. Owing to the different times of appearance of the two diseases it is in fact occasionally a grave drawback. C. R. Wise and D. M. Pillsbury[3] mention two cases in which the treatment of gonorrhoea with 100,000

[1] *J. Amer. med. Ass.*, 1944, **126**, 63, 67, 73.

[2] *Lancet*, 1944, **2**, 336.

[3] *Brit. J. Surg.*, Special Issue, "Penicillin in Warfare," 1944, p. 214.

units of penicillin apparently suppressed a coincident syphilitic infection, which became manifest only on the delayed appearance of secondary lesions. This possibility is perhaps an argument in favour of treating gonorrhoea initially with sulphonamides.

PREVENTION OF PROSTITUTION

The League of Nations has done much useful work on the rehabilitation of adult prostitutes.[1] Its advisory committee on social questions, recognizing that rehabilitation is inevitably more difficult and less effective than prevention, has since 1938 been collaborating with the International Labour Office in a study of how to prevent prostitution, especially in minors.[2] The causes which lead women into prostitution can be divided, it says, into two main categories —one social and the other individual. At all events before the present war social causes alone were rarely determinant unless they were linked up with predisposing characteristics. The more important of these are weak character, poor mental equipment, and grave physical disability; less important are an oversexed constitution or inherent depravity. Predisposition to such a way of life is apparently very rare—6 to 10%—and these women are psychopathic. The chief social causes are disintegration of family ties or separation of the adolescent from the shelter of the family; faulty education and upbringing; slums, want, and, in some occupations, insufficient social protection against risks due to the environment, the temptations or conditions of life which it entails. Every improvement in the social and economic status of women is likely to strengthen the resistance of the individual woman to the hire of her body. Other things being equal, the percentage of full-time prostitutes decreases with the improvement of social services protecting the weak. The increasing opportunities for women to make lives of their own have preserved many from becoming prostitutes, but an even more important factor has been the development of social insurance and its progressive extension among women workers. Unemployment insurance bridges over dangerous periods of great material embarrassment by intervening at the critical moment, which is largely important in a marginal case—that of a woman whose resistance to financial temptation has already been weakened. The removal of financial insecurity is a powerful protective factor. In feminine occupations in which social protection is neglected the percentage of prostitutes is greater than in fully protected occupations. Organizations and social protection are vitally important in such occupations as domestic service and catering, and in night clubs and music-halls. Measures that improve the standard of living, and especially housing, tend to reduce prostitution.

Social preventive action may well include the protection of young workers when they are placed in employment. Other social measures intended to organize protection against risks arising out of the surroundings of the work may be negative, prohibiting the employment of young persons in work where the risks are serious; or positive, organizing supervision over young people and helping them to overcome the difficulties arising out of their work. The organization of the occupation itself, and the adoption of rules devised for raising its standards, may protect against demoralization. Measures of this kind seem to be particularly suitable for overcoming the risks in domestic service.

The committee holds that insufficient attention has been paid to the demand for prostitutes. To reduce the demand would lead to a reduction of the supply. The first effect would be a temporary or permanent fall in the earnings from prostitution. Among prostitutes the part played by bad company, and especially by souteneurs, is infinitely greater than in any normal group of women. If the law is strict and is applied with the utmost severity, all forms of the souteneur's activities can be checked. For such suppression, however, a powerful and active public opinion is needed. One difficulty in this line of attack is that in regulationist countries brothel-keepers are recognized or tolerated, and therefore immune from legislation directed against the souteneur. The punishment of adult prostitutes for offences connected with prostitution is entirely useless and even dangerous. Imprisonment of women who are on the brink of prostitution makes them even more conscious that they are already outcasts, and makes their return to normal life infinitely more difficult. Fines merely incite to prostitution as a means of raising the money. Certain experiments carried out in the Scandinavian countries aim, without punishment, at deterring women from continuing to prostitute themselves. The principal innovations consist in the psychiatric examination of prostitutes, the treatment of those found to be feeble-minded, and the use of probation Such methods, it is suggested, would take off the streets a large number of women who go on them because of poverty. Probation should prove a powerful deterrent to a woman who has not yet entirely lost her self-respect. One highly significant development is the recent advance in the treatment of gonorrhoea. This has much reduced the fear of disease and therefore tends to increase the demand for prostitutes. Future appeal to men will have to be based less on physical danger and more on moral grounds.

One of the chief individual as distinct from social causes of prostitution is slight mental abnormality. The great majority of prostitutes are borderline cases. Difficult or mentally defective children should be more surely detected while they are at school and be adequately educated. Incurables should be protected from those realities of life that are too difficult for them. Again, many women are forced to prostitution by chronic physical disease which incapacitates them for normal work. The remedy is compulsory health and sickness insurance. Social services can contribute by helping women who have contracted venereal disease before they fall into prostitution by putting them in touch with voluntary organizations and with official and non-official help during treatment and after cure. Societies should avoid forcing women who are merely promiscuous into professional prostitution. Police raids on places of amusement are often followed by the indiscriminate detention of prostitutes and non-prostitutes. The latter run grave risk of losing their employment in consequence; they are prone to have difficulties with their families, and to

[1] Documents C.218.M.120.1938.IV, C.6.M.5.1938.IV, and C.83.M.43.1939.IV.
[2] *Prevention of Prostitution*, League of Nations Publications: IV.Social.1943. London: Allen and Unwin. 6s.

to the streets. The authorities in countries which practise regulation and the licensing of brothels tend to force suspected women into the rigid system of registration. The committee declares that minors should never be registered as prostitutes or be allowed to become inmates of licensed houses. Authorities and voluntary organizations should make every effort to warn women about to be registered of the serious consequences of this step, fix a long enough interval between application and the issue of the card, and keep away from their offices souteneurs, brothel-keepers, and the like, who might bring pressure to bear upon applicants. Girls who wish to be struck off the register should be helped and not obstructed. As unmarried mothers fall nearly everywhere under a social stigma, public health and social services should give them financial aid. Efforts should be made to restore them to their families or to place their children in suitable homes, and to find them employment. Such services should be organized in such a way that unmarried mothers do not hesitate to apply to them. Many girls drift into promiscuity and later into prostitution through being suddenly transferred to a strange mode of life. Voluntary organizations, says the committee, should try to enlighten young women by meetings and leaflets. Besides drawing attention to the dangers of large towns, they should impart at least rudimentary knowledge of the means of help that are available. Railway missions especially do much by protecting young girls who have run away, have met doubtful persons on their journey, or are travelling to new places of employment. These services ought to be extended to travel by road, air, and water. Women police can give much protection to minors on the fringe of prostitution by supervising cabarets, night-clubs, suspicious restaurants, and other haunts of prostitutes. In regulating countries they may be able to rescue promiscuous girls before they are caught by the *police des mœurs* and registered. Many prostitutes have started their sexual experience very early, and the severe punishment of sexual offences against children provides a certain safeguard. In some countries the age of consent could be raised without interfering with the liberty of the subject.

In conclusion the committee hopes for a further reduction in prostitution if social progress and preventive measures coincide with the growth of new standards of sexual morality. It looks forward to a period during which there will be a progressive decline by a general increase in individual consciousness of responsibility, by a further development of social services, and by deliberate official effort to lessen its incidence.

PAIN SENSITIVITY IN DYSMENORRHOEA

The many theories put forward to explain dysmenorrhoea have included, according to the fashion of the day, various endocrine disturbances, vitamin deficiencies, and psychological difficulties. The simplest explanation is probably that women who experience dysmenorrhoea are more sensitive to pain than their more fortunate sisters. Haman[1] has produced evidence that this is so by comparing the sensitivity to pain in 100 women with dysmenorrhoea and 100 without, in 100 post-menopausal women, and 100 men. His method of testing pain sensitivity is a simple one based on pressure pain, using a sensimeter: this is a simple adjustment of a standard Geneva lens measure, an instrument looking like a watch, with three projecting pointed rods, the centre one being movable and projecting beyond the other two. The rods are rested on the proximal phalanx of the thumb, and pressure is applied until it hurts; as the central rod is depressed its movement is recorded on the watch face, so that a reading of individual pain thresholds may be made. Haman publishes means and frequency distribution curves of the results in the four groups. They show no significant differences between the averages of the men, normal women, and post-menopausal women, though the latter had a slightly higher threshold than the others. The dysmenorrhoeic women, however, had a significantly lower average threshold. When divided into two subgroups—those with primary and those with secondary dysmenorrhoea—the first gave a lower average than the second. When the post-menopausal women were divided into those who had had dysmenorrhoea and those who had not, the former showed a lower average threshold than the latter. This does not entirely rule out the possibility that persistent cyclic pain such as is suffered in dysmenorrhoea may lead to a general increase in nerve sensitivity. A clinching demonstration would be to determine the pain threshold in large groups of pre-adolescent girls and see whether dysmenorrhoea was later most frequent among those with the higher thresholds.

[1] *Amer. J. Obstet. Gynec.*, 1944, **47**, 686.

SCHEME FOR CANCER TREATMENT

In a discussion at the Radiological Section of the Royal Society of Medicine on post-war organization for cancer treatment (which is reported elsewhere in this number) Mr. G. F. Stebbing mentioned a pamphlet describing an "A B C Scheme for the Organization of Cancer Treatment in London." We have now received a copy of this pamphlet.[1] Dr. Malcolm Donaldson's object in publishing it is to persuade the voluntary hospitals in London and the surrounding counties to get together and draw up a scheme to help the local authorities, who are responsible under the Cancer Act for submitting to the Ministry of Health a plan for the organization of cancer treatment in their areas. Because of the scarcity of towns with large populations in the Home Counties and the centralization of many big hospitals in the County of London, it is considered essential in the A B C scheme that the County of London and the six surrounding counties should be regarded as one area. It is suggested that this area, comprising a population of about 12,000,000, should be divided into six sectors or groups. In each of these six sectors the hospitals would be classified as A, or B, or C. Class A hospitals—in most cases teaching hospitals—would have facilities for all methods of treatment, including radiotherapy; Class B hospitals would have all facilities for surgical treatment but not radiotherapy; and Class C hospitals would be used for preliminary investigation of suspected cases of cancer. It is further suggested that if there is more than one Class A hospital in one area they should co-operate, particularly in respect of radiotherapy, and should elect one of their staff as a "co-ordinating member." Again, it is suggested that there might be substations of radiotherapy in some of the larger towns of the Home Counties working in the closest co-operation with the A hospitals and sharing the radiotherapeutic staff. It will be seen that by this A B C scheme there would be large groups of hospitals rather than exactly defined areas, in which the A hospitals and their substations would take on the responsibility for giving radiotherapy to the patients in the B hospitals, the

[1] Copies can be obtained from the National Radium Commission, 12, Manchester Square, London, W.1.

patients being returned to their original B hospitals for after-care and follow-up. Such a scheme does not deny an A hospital the right to treat patients from elsewhere, or a B hospital to send a patient for special treatment to an A hospital outside its group. It is suggested that there should be a medical organizing committee for each of the six groups, who would be responsible to a Cancer Council consisting of representatives of those local authorities who control the area in which the hospitals are situated. Although in the first place it may be necessary to have a Cancer Council in each sector, later one Cancer Council would probably suffice for the whole seven counties.

HOMELESS CHILDREN

Experience in caring for children bombed out of their homes in this country will help in dealing with the far larger problem of caring for millions of homeless European children. Dr. D. W. Winnicott and Clare Britton, a physician and a psychiatric social worker, took part in the Oxfordshire scheme of setting up evacuation hostels for children who could not settle in billets.[1] They found themselves able to cope with children who came to them with severe symptoms when the illness was temporary and by way of a defence mechanism. Nearly all such children respond well even without individual psychotherapy, and are able to enter home life again. Several hostels form a group directly administered by the county council, and a psychiatrist visits one day a week and directs a whole-time psychiatric social worker in the routine management of the hostels. The grouping of hostels makes possible a certain amount of classification and enables children to be changed from one type of hostel to another without breach of continuity of treatment. Not more than 25 children, the authors think, should be put in one hostel; the ideal number seems to be 12. Also, the hostels should not be so near one another that the children can meet and compare notes; for that matter it is just as well that the staff should not constantly compare their own efforts with those of their neighbours. In practice the psychiatric social worker controls the whole of the work except for maintenance and alteration of buildings. She is in touch with all that each hostel has gone through; she knows which type of case goes best in each hostel, and she can appreciate the difficulties of the staff. She knows each child at every stage, and it is her function to give the children a sense of continuity. Previous training and experience as hostel wardens matter little compared with the ability to assimilate experience and to deal in a genuine, spontaneous way with the events and relationships of life. Wardens are put to such a severe test by the children that only those who are able to be themselves can stand the strain. They must also have a genuine love of children. If a man and wife are appointed this avoids many deficiencies, and many difficulties do not arise. A warden must be willing to stay in the job, for a change of warden means "casualties" among the children. The education of wardens is obviously important. It is part of the work of the psychiatrist and the social worker, and much help is given if wardens have enough confidence in themselves to be able to think along psychological lines and discuss problems with other wardens and experienced people. The subordinate staff present a problem, for, as the children are somewhat antisocial, the management cannot help being dictatorial and the assistants have their initiative much curtailed. Each hostel tries to reproduce as nearly as possible a home environment: a building, food, clothing, human love and understanding; a time-table, schooling; apparatus and ideas leading to rich play and constructive work; substitute parents and other human relationships. Antisocial, introverted, depressed, distorted, and backward children all need separate and distinct kinds of treatment. The limitations of the experiment are obvious, and perhaps the most serious are that everyone feels the work to be temporary and entrants cannot be selected. Nevertheless, the authors think it has been well worth making. It has shown the difficulties and possibilities of providing substitute homes for children, and proves that residence in a hostel under specialized management can have definite therapeutic value. This conclusion is borne out by a valuable survey of experience under the evacuation scheme just issued by the Ministry of Health and printed in pamphlet form under the title *Hostels for "Difficult" Children* (H.M. Stationery Office; 6d.).

[1] *New Era*, Sept.–Oct., 1944.

FLUOROSIS IN SOUTH AFRICA

The existence of endemic fluorosis in South Africa was recognized as a serious problem about five years ago. Particularly important areas of fluorosis are at Pilandsberg, Warmbaths, the Saltpan region of the Transvaal, and several areas in the Cape Province. Fluorine-bearing rocks, minerals, and soils are widely distributed, giving rise to domestic waters with toxic levels of fluorine, in places up to 11 parts per million and many having 6 p.p.m. The fluorine concentration in the water of dams, springs, wells, and boreholes varies widely according to the rainfall. Characteristic mottling of the teeth drew attention to the existence of the fluorine. It appears that the pattern of the mottling is very variable, from chalky patches to an opaque whiteness of the whole tooth; sometimes, but not invariably, hypoplasia and pitting are severe. Not everyone in a "fluorine area" is affected, nor is the extent of the reaction the same in those with fluorosis from drinking water of similar fluorine content. Ockerse[1] believes that differences are due to the form of fluorine compound present; they are equally likely to be due to dietetic factors; for example, a high-calcium diet, especially one that includes milk, probably protects against fluorosis. Staining of the mottled enamel is, of course, recognized in South Africa, but the nature and cause of this stain are unknown. The mixed populations of South Africa make it difficult to investigate the still open question of whether mottling protects against caries. Moreover, it must be recognized that an optimum intake of fluorine might give protection with little or no mottling.[2]

Of even greater interest than the study of the teeth is the observation that gross skeletal changes occur at about 30 years of age after long exposure, with such symptoms as stiffness of the spine and joints; *x*-ray examination reveals ossification of the lumbar and thoracic vertebrae, and osteophytic deposits on the radius, ulna, and rib margins; there are also loss of appetite and emaciation. This condition, finally incapacitating, resembles that shown by Shortt's[4] cases in India. The whole syndrome is probably comparable to cases of industrial fluorine poisoning. Ockerse's report, which gives details of interest to geologists, dentists, and public health workers generally, emphasizes the fact that endemic fluorosis from domestic waters with high fluorine content involves more than severe mottling of the dental enamel; severe damage may be done to the health and welfare of the users. The harmful nature of the water supply in several regions of South Africa has necessitated the use of rain-water.

[1] *Endemic Fluorosis in South Africa*, 1944. Union of S. Africa, Department of Public Health Report. Pretoria.
[2] Pillai, S. C., and Rajogopalan, R., *Ind. med. Gaz.*, 1944, **79**, 261.
[3] Sognnaes, R. F., *J. dent. Res.*, 1941, **20**, 303.
[4] Shortt, H. E., McRobert, G. R., Barnard, T. W., and Nayar, A. S. M., *J. med. Res.*, 1937, **25**, 553.

OBSERVATIONS ON SCABIES AT THE ST. PANCRAS BATHING CENTRE

BY

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The prevalence and obstinacy of scabies, and the evident difficulties which many general practitioners have with it, are proffered as excuses for another article on this subject.

I have had the advantage of attending school-children at the St. Pancras Bathing Centre for the L.C.C., and younger children and adults at the same centre for the St. Pancras Borough Council. This has led to the treatment of whole families simultaneously. The intention has been to treat all immediate contacts at the same time as those affected by the disease, with a view to reducing the number of recurrences.

During 1943 the total number of new cases treated among school-children was 1,136, with 5,215 attendances—i.e., approximately 4.5 attendances (*not* necessarily treatments) per child. Medical examination of adults and pre-school children started only at the beginning of March, the figures for new cases in the last ten months of 1943 being adults 442, pre-school children 201, with a total of 2,138 attendances—an average of 3.3 per patient.

In nearly every case (the exceptions being babies under 1 year old) treatment has been with benzyl benzoate, painted on by trained personnel at the clinic. In a few cases only one application was given, and in a very few three paintings were applied; the great majority had *two* such treatments, the remaining attendances being for simple baths, observation of progress, treatment of complicating sores, or sometimes for reassurance about persistent itching or healed spots. It has been established by K. Mellanby and others that one application of benzyl benzoate will cure nearly all cases of scabies. Owing to the difficulty of collecting whole families simultaneously, it has been the practice at the clinic to give two applications at an interval of two or three days. It has been hoped that this would allow contacts and carriers to be disinfested before finally discharging those members of the family who presented themselves earliest.

Despite these precautions of doubling the treatment and persuading contacts to attend, 193 of the 1,136 school-children came back to the clinic with recurrences of scabies—i.e., nearly 17%. It has not been possible to prove that none of these recurrences were relapses, but the lapse of time in the great majority of cases pointed to reinfection. Among the adults and younger children, of the total of 643 treated and discharged, 52 returned later with active scabies—i.e., 8%.

An investigation of the 52 recurrences among the adult and small-child group revealed the following interesting facts: 22 of the recurrences occurred in families in which some contacts had not been treated; 10 further subjects knew they had been in contact with scabies outside their families; the 20 remaining could give no information revealing any probable or possible source of reinfection.

Experience at the clinic shows that it is frequently very difficult, sometimes impossible, to induce all family contacts to attend for treatment. The argument is adduced that So-and-so has not got any spots. Often it is added that the family doctor has confirmed this and declared attendance at the clinic to be unnecessary. Unfortunately this last comment is sometimes true—all doctors do not seem to realize that the sarcoptes may be present for some time before producing signs or symptoms. Only a small minority of local practitioners appear to be sending contacts for treatment, and in many cases reluctant contacts who have declared themselves free from spots have been found ultimately to have numerous typical lesions, possibly quite unwittingly. This seems surprising, but is not uncommon. As a rule, mothers of families can be persuaded to be treated as contacts; fathers are far more reluctant or find it far more difficult to attend, although every effort is made to meet their choice of time. Grandparents often jib at coming up for baths; but the most obstinate refusals are from adolescents who have left school a year or two, and who do not like anything resembling discipline. It is obvious that much propaganda is still needed, especially to educate the public in the fact that scabies has "an incubation period" and that "prevention is better than cure."

Other sources of probable reinfestation have been found to be aunts, uncles, and cousins living in the same house, but rarely mentioned by either children or adults (as contacts), sometimes not even on direct inquiry. Lodgers have also to be remembered. Tact, moreover, is required to persuade unmarried bed-partners to attend the clinic; but this difficult task has been admirably carried out by a most diplomatic health visitor. On this last point, of course, no direct or indirect inquiries are ever made, but voluntary admissions are followed by a talk showing why the partner should also attend. Most cases are first brought to light in the routine work of the L.C.C. school nurses. Many more are sent up by local doctors. Most doctors would appear to know scabies when they see it, but during 1943 six cases of chicken-pox, two of herpes zoster, one secondary syphilide, and various eczemas were sent in diagnosed as scabies by medical practitioners; so also were two cases of pediculosis, several of flea- or bug-bites, some diet rashes, and a dozen cases of acne, in all of which no signs of scabies could be found. It is doubtful if the average practitioner sees many cases of scabies either in hospital or in private practice: one or two visits to a bathing centre would probably be very helpful, and visiting colleagues are always welcome. Again, many patients ultimately come to the clinic with scabies, after having been treated a long time for some other condition—usually food rash or eczema. Even a correct diagnosis is not invariably followed by proper treatment. For example, one patient seen a week or two ago had been using sulphur ointment daily for six weeks, allegedly on her doctor's instructions. She certainly had no scabies when seen, but had a severe sulphur dermatitis.

During the present year a failure in the boiler system due to war causes made it impossible to give the usual immersion and soaking to school-children attending for treatment. For three months these children were merely sponged with warm water before being painted with benzyl benzoate. It has been interesting to observe that there was no falling-off of cures during or soon after this period. Scrubbing the skin to open burrows and lesions has long been abandoned, the only apparent difference being that children with secondary sores no longer suffer as they did under this infliction.

It is also to be noted that children occasionally attend in the morning on an empty stomach. If soaked for some time in a hot bath, then painted standing, and directed—as older children often are—to rub in the paint with their hands to facilitate drying, such children may feel, or actually become, faint. This never happened when the child was not soaked but only sponged.

It is still the practice here to treat children under 12 months old by inunction with Marcussen's ointment. This gives results comparable with those from benzyl benzoate, but the ointment is too messy and colourful for general use.

The new *National War Formulary* application of benzyl benzoate is not only economical as compared with the old spirit and soap lotion but is also much better tolerated. In fact, neither adults nor children complain nowadays except (rarely) when a child rubs some of the application into an eye. Nor is a single case recollected in which benzyl benzoate application was followed by any harm.

Occasionally, when the presence of other illness rendered a patient unable or unfit to attend, benzyl benzoate has been prescribed with full instructions for use in the home. Experience has shown that home-treatment fails in most cases. Experience also shows overwhelmingly that *recurrent scabies is a disease of dirt*. The cleanest people may be unfortunate enough to contract scabies once. We have had families attending the clinic for as many as four attacks of scabies in a year. In all these cases, without exception, the homes have been dirty, and the patients have shown, in the state of their clothing, sometimes by concurrent infestation with lice, and the obvious neglect to use soap and water, that hygiene may receive honourable mention but has not been practised. These patients are sometimes of low mental grade.

The following formulae may be useful for complications:

1. *Ointment for Boils and Pustules*

R Extr. ergotae liq. *B.P.*	ʒ vss
Zinci oxidi	ʒ ivss
Acid. carbol. pur. *B.P.*	gr. lv
Adeps lanae anhydr.	ʒ ii ʒ vi

M. ft. ung.

2. *Ointment for Impetigo and Septic Sores*

R Sulphanilamidi	gr. xxiv
Ung. simp.	ad ʒ i

These have been very successful for the secondary septic infections that often follow scabies and scratching. Almost the only other ointments used have been ung. zinci, with castor oil; ung. hydrarg. ammon. dil. *B.P.C.*; and, for persistent itch *after* killing sarcoptes, ung. calamin. co. (syn., ung. sed.), *N.W.F.*

The opportunity is taken, with pleasure, of acknowledging the loyal and efficient assistance of the County, and Borough, Council staffs in all departments, both in the treatment of patients and in the preparation of the records referred to in this article.

Geriatrics is the latest specialty of medicine to be developed, and is the subject of increasing references and articles in the medical press. Pleading that older people should be treated psychologically as well as physically, Dr. Roger I. Lee (*New Engl. J. Med.*, 1944, **230**, 190) observes, "Although I do not approve of their picking up gigolos and going dancing, at the same time a certain amount of this sort of thing is to be recommended."

PHYSICAL EDUCATION

A PRELIMINARY TECHNICAL SURVEY

A Research Board for the correlation of medical science and physical education was formed in the middle of 1943, under the chairmanship of Brig. Frank Howitt, and with the blessing of the Ministry of Labour and the President of the Royal College of Surgeons. Its aim was to ensure a more general recognition of the need for physical education and the better co-ordination of the various authoritative groups dealing with aspects of that wide subject. It has now published an interim report[1] in the form of a preliminary technical survey with recommendations. The work of the Board was divided into four sections—namely, physical education in respect of maternity and child welfare, of education and recreation, of the fighting Services, and of industry. The present report covers only the first three of these. The other, relating to industry, is a field so wide and at present so much disturbed by war conditions that it will be the subject of a later special report.

The section of the Board's work dealing with maternity and child welfare was undertaken under the guidance of Mr. Victor Lack; a number of recommendations concerning the provision of ante- and post-natal exercises are made. The section dealing with education and recreation was undertaken by a team of sixty under the leadership of Mr. H. M. Walton, and deals with the problem from the nursery school right up to the university. It recommends, by the way, that each university should appoint a medical officer, and that a university health committee of both staff and students should be instituted, to concern itself with students' diet and general living conditions, with preparing courses in health education, and with giving publicity to such medical services as exist in the university itself and in the locality. Another recommendation is that students should be obliged to undergo a medical and physical examination on entry into the university. The third section, concerning the Services, deals with the three groups—the normal recruit, the substandard recruit, and the sick, injured, and disabled. This section has been in charge of Surg. Capt. K. Digby Bell, R.N. It is urged that medical men who have worked particularly among substandard recruits during the war should be given every opportunity of putting their knowledge and experience into effect in civil life. The recommendations in the entire report number about 150, and they and the facts given are the result of first-hand knowledge derived from visits to schools and hospitals, and Service training, physical training, and rehabilitation centres. Many of the recommendations repeat and reinforce those made by the British Medical Association's Physical Education Committee in 1936. The field is so wide that they cover practically everything which has to do with "positive health," so far at least as the younger age groups in the community are concerned. No sooner had the technical subcommittees begun their work than the need for a scientific advisory committee, both on long-term questions of research and on immediate problems, became apparent, and such a committee has been established with Sir Farquhar Buzzard as chairman and Prof. Lancelot Hogben as assessor.

Need for Co-operation

The report was formally presented at the second annual general meeting of the Board, when the Minister of Health (Mr. H. U. Willink) attended and gave a promise that the recommendations would receive serious consideration by the Government. The Minister said that physical education was no longer a matter of routine exercises to promote physical development; it was a carefully considered plan for the improvement of health, calling for consultation between doctors, physical education experts, and others concerned in national welfare.

Brig. F. A. E. Crew, who also spoke at the meeting, said that in the post-war world the scientific departments of our universities would be called upon as never before to make their own special contributions to the solution of problems of social importance. It was essential, he said, that social needs should be made known to the scientists who laboured at the forge of knowledge, and that to these should be given the opportunities and facilities for dealing with such needs. He hoped that the most profitable co-operation of medicine and physical education which had taken place in the Services during the war would continue in civil life, and that physical education might be aided by medicine to become a branch of the science of biology applied to human and social affairs.

Sir Alfred Webb-Johnson spoke of the urgency of seeing that in town and school planning adequate provision was made for playing fields, areas for general recreation, and swimming baths, and also for making use of the large number of men and women specially trained for the work of physical education and rehabilitation, who within a reasonable time would be liberated from the Services.

Finally, the chairman of the Board, Brig. Frank Howitt, claimed for the recommendations that they were both practical and practicable. None of them were unduly utopian, and the Board believed that much could be done in these directions, given patience and pertinacity.

[1] Published by the Research Board and the Ling Physical Education Association, Hamilton House, Bidborough Street, W.C.1.

FUTURE OF PSYCHIATRIC SERVICES

Mr. Henry Willink, Minister of Health, speaking at the centenary luncheon of the Royal Medico-Psychological Association in London on Nov. 29, said that great changes in the organization of the public health services and in medical education were in prospect. The working out of arrangements for these changes, so far as they might affect the mental health service, would call for many adjustments and the solution of some rather complex problems of organization. In this there would be full consultation with the representative bodies concerned.

Problems of Organization

It was to be hoped that among other objects future development would include a unified control of all mental health services under a single set of authorities. It was of the first importance to have in every area a body charged with the responsibility of dealing with all aspects of mental health so that they could survey the field as a whole instead of there being a variety of authorities or combination of authorities, each concentrating on relatively limited sections of the whole field. Unified control was essential, for example, to the proper development of a comprehensive out-patient service, which was the first great step towards the application to mental health of the principles of preventive medicine. But if out-patient centres were to be developed there must be a parallel development of the ancillary services. It was obviously uneconomical to leave a highly trained psychiatrist to do his work as best he could without the knowledge of the patient's home and occupational background which a trained psychiatric social worker could give him. It was even more wasteful to leave the psychiatrist in charge of an out-patient centre without adequate clerical assistance.

Psychiatry was still a young specialty; it had suffered from the relative isolation of many mental hospitals and the difficulty which the medical staffs had in keeping in touch with general medicine. The Ministry and the Board of Control were most anxious to secure a closer relation between mental and general hospitals, not only by interchange of staff but by the establishment of psychiatric units in all the teaching hospitals and in the larger non-teaching hospitals. With good will and a common purpose on both sides none of the difficulties need be insuperable. The interim report on undergraduate education issued by the Royal College of Physicians in October, 1943, contained the suggestion that every teaching hospital should have a psychiatric department which would form a link between the general hospital and the mental hospital. This surely crystallized a very important principle that was bound to influence future developments profoundly—i.e., the closer association of the treatment of mental illness with physical illness and the mental hospital with the general hospital. A great deal of attention would inevitably have to be given to the administrative machinery and the local government problems associated with this service.

The Training of Psychiatrists

Another important task would be the development of a more scientific system of training psychiatrists. There was a growing recognition that the time had gone by when young assistant medical officers in mental hospitals could be left to train themselves, as in the past they had sometimes had to do, with such encouragement as was afforded by the extra pay given to those who secured the Diploma in Psychological Medicine. Any scientific system of training must make provision for postgraduate work. Hitherto psychiatry had suffered from being split up into too many sections. In planning the course of postgraduate training of the psychiatrists of the future there would clearly be a need to take a broader view and include the study of mental deficiency and child psychiatry as well as adult psychiatry.

A more systematized training was, however, not enough unless combined with intensive and well-planned research. Too little was known of the causes of mental disorders and abnormalities. It was the wish of the Ministry and the Board of Control that all mental hospitals should take some part in a well planned and co-ordinated scheme of research, stimulating and beneficial to all who took part in it, quite apart from the scientific and medical value of the results attained. The danger of all institutional service was the obvious tendency to a monotonous routine; and a share in research work helped to maintain scientific interest and keenness. Another measure contributing to this end would be the institution of refresher courses for doctors who felt they were beginning to get out of date and out of touch with modern methods.

Reports of Societies

ORGANIZATION OF CANCER TREATMENT

Opening a discussion on the post-war organization for the treatment of cancer at a meeting of the Radiological Section of the Royal Society of Medicine on Nov. 17, Sir ERNEST ROCK CARLING reminded his audience that the National Radium Commission had been in existence for fifteen years, and during that time had set up regional organizations for one method of cancer treatment—namely, radiotherapy—and these organizations were largely based on university towns. It was obvious, however, that for a cancer organization one kind of treatment should not predominate, and the object of his remarks would be to examine the question whether surgical treatment could be arranged on the same regional lines. He did not intend to discuss administrative problems, but would point out the danger of people who were ignorant of medical and scientific problems having too large a say in the matter, and said he felt very strongly that the profession had got to save itself by working out its own plans based on the overriding principle of what was the best for the patient. He said it was generally agreed that radiotherapy should be concentrated in a few well-equipped and strongly staffed institutions, with perhaps some associate subcentres, with the headquarters at a university town, and dealing with a population of three to four million people. In exceptional circumstances this figure would have to be reduced perhaps to one million. He then discussed whether such a regionalization would suit the surgical treatment of cancer. He pointed out that certain services, such as for thoracic surgery, plastic surgery, neurosurgery, blood transfusion, and pathology, had been organized on a regional basis during the war and proved to be an unqualified success, and he had no doubt that cancer surgery could be organized on similar lines.

In discussing the organization in greater detail, he said it was useful to plan from the periphery, where the case was first suspected to be cancer, to the centre. He pointed out the importance of registration as a safeguard to prevent any patient being neglected or side-tracked. He envisaged a team of consultants, based on headquarters, though individual members might be practising in other parts of the region; and a panel of other medical men who would take part in the cancer organization. He also dwelt on the importance of proper records, follow-up of all patients suffering from cancer, and research.

Mr. G. F. STEBBING started his paper by pointing out how very inefficient was the present treatment of cancer in this country, and then went on to examine the causes of this inefficiency. He said that methods of examination and treatment had improved very rapidly, but the medical profession had not kept pace with them. It required a team of specialists to use the implements that have recently been devised, but so far there is no proper organization for bringing this team together. He pointed out the scarcity of hospital beds, and the difficulty of ensuring that any particular type of cancer is treated by experts in that line. If these difficulties were to be overcome he said it was essential to have in every region an organization that is known to every practitioner, that is freely and immediately at the disposal of every patient, and that is so arranged that it ensures efficient diagnosis and prompt treatment for every patient. He mentioned that Dr. Malcolm Donaldson had recently published a paper describing a scheme for the organization of the diagnosis and treatment of cancer in London and the Home Counties, and he thought that it was along such lines that it would be necessary to proceed. He then discussed in detail such a regional organization, pointing out that there should be a whole-time director —a clinician of wide experience and taking part in the clinical work. He thought that the headquarters should be in a general hospital where there was a highly organized radiotherapeutic department, and where there were surgeons, physicians, gynaecologists, and other specialists, who must have time and opportunity to discuss the problems of the work in which they are engaged. Mr. Stebbing also dwelt upon the importance of a proper record department and follow-up system.

Dr. NUTTALL, the other opener of the discussion, considered the various facets of a cancer service from the medical rather than the administrative point of view. He pointed out that facilities for diagnosis must be widely dispersed throughout the area if patients were to be persuaded to make full use of them. He considered that some 50% of cases presented a palpable or visible lesion, and the diagnosis could be made in a clinic, the remainder requiring examination by means of special apparatus or technique and possibly hospitalization. He thought that special beds should be set aside for such investigations. He considered that the pathological investigations should be in the hands of specialists in tumour histology. So far as treatment was concerned, he pointed out that surgery was at least as important as radiotherapy, and there was much to be said for centralizing cancer surgery in the major hospitals. In discussing radiotherapy, he emphasized the importance of linking radium and *x*-ray treatment, and pointed out that for economic reasons alone it was necessary to centralize radiotherapy. He realized the difficulty of absolute centralization, and said that in some cases subcentres would be necessary. He pointed out that no cancer organization could be considered complete which does not provide for the welfare of the incurable cases. Finally he referred to the necessity for education of the public concerning the first symptoms of the disease. Among the other speakers was Air Cdre. STANFORD CADE, who urged the need for notification to a central authority. Dr. MARGARET TOD pointed out the desirability of centralization in order to avoid delay in treatment. Dr. BLOMFIELD stressed the importance of team-work.

Prof. WINDEYER said he had been pleased to hear Sir Ernest Rock Carling's exposition of how areas of population for cancer service would fit in with the areas of population for other general medical services. Particularly had he been pleased to hear the suggestion that cancer treatment centres must be based on universities, because he felt there was a possible danger that cancer treatment might be taken too much away from the rest of medicine and that future practitioners and students would not be taught sufficient about cancer if the cancer service was segregated. He said that Dr. Nuttall had touched on the question of segregation of cancer patients, suggesting special cancer blocks in a general hospital. He strongly disagreed with this suggestion, and said that the segregation of patients should be according to their treatment and nursing needs and not according to their disease.

Dr. MALCOLM DONALDSON said that in the excellent opening to this discussion what had been called the A B C Scheme had been mentioned. He had published this memorandum on the organization of a cancer service for London and the Home Counties, including a classification of hospitals in that area, but he wanted to make it clear that this classification was a purely personal idea on his own part and had not been approved by any public body or authority. His memorandum had been written with the idea of making people think, and he believed that if they read it it would do so. A second objective was to try to get the teaching hospitals in the area with some of the larger voluntary hospitals to get together and to work out some sort of scheme to help the local authorities. He hoped that a meeting might take place at which such a scheme could be drawn up. Again, he had put a concrete scheme forward with the idea of getting criticism. He had got certain of his friends to read it, and so far one criticism had been made—namely, that if a scheme of this sort should come about the A hospitals which gave radiotherapy would have to bid farewell to their present clientele and to the other hospitals with which they had been working for years, and take on a new set of friends. There was nothing of that kind intended. Certain A hospitals would be responsible for certain B hospitals in which surgery alone was performed, but this would not prevent them from taking other cases as well. He hoped to see the financial arrangement the same for each class of hospital in the area, so that the local authority would not be biased by one hospital's having a cheaper service than another, and practitioner and hospital would have free choice as to which hospital was consulted in the first instance. Dr. LOUISA MARTINDALE did not agree with notifications of cancer, as this would frighten the early case.

Sir ERNEST ROCK CARLING and the other opening speakers then replied.

DIET AND TUBERCULOSIS

The Scottish Group of the Nutrition Society, at its meeting in Dundee under the chairmanship of Dr. W. T. MUNRO, discussed diet and tuberculosis. Dr. R. Y. KEERS said that although malnutrition was a factor in lowering resistance there was no unequivocal evidence that it was the sole, or even the most important, precipitating cause. Wartime diet, so far as the tuberculous subject was concerned, was not deficient in nutritive properties. The patients at Tor-na-Dee were drawn from a section of the community in which malnutrition was not encountered, yet this section had not been spared in the rising incidence of tuberculosis. The common factors among these patients were longer hours of work and a reduction of the time usually devoted to rest; in no instance had dietetic deficiency played an obvious part. Dr. Keers thought that the wartime diet was perfectly satisfactory for the patient under treatment. In a recent investigation to determine whether a larger consumption of fat was beneficial, he had found that patients who received extra fat showed a more rapid gain in weight than did controls during the first four months, but at the end of nine months there was little difference between the groups. This indicated that there was nothing to be gained, and even something to be lost, by attempting to force the intake of fat beyond that which the patient could ingest and assimilate completely. The dietetic treatment of tuberculosis demanded no more than a full well-balanced intake. Cod-liver oil was not essential and should be reserved for those whose digestion was sound.

Mr. J. N. RITCHIE, of the Ministry of Agriculture, describing progress in the eradication of bovine tuberculosis, said that in some districts the proportion of attested to non-attested herds was as high as 60%, while in others the figure was negligible. The next step would be to introduce the policy of area eradication—a plan that had been successful in America, where a very high standard had been attained.

Mr. C. H. CHALMERS, Chief Milk Inspector for Scotland, in a paper on pasteurization, pointed out that a large proportion of the milk supply was now exposed to heat before dispatch from the area of production. Heat treatment, which simply implied that the milk had been heated to an unspecified temperature for an indefinite time, did increase keeping properties, but did not guarantee freedom from living tubercle bacilli. The destruction of *B. tuberculosis* depended not only on the temperature to which the milk was heated but also on the time it was kept at that temperature. The limits for effective pasteurization were considered to lie between 145° F. for 30 minutes and 162° F. for 15 seconds. For various reasons the slower process was the more satisfactory. The enzyme phosphatase, which was present in raw milk, was destroyed by all combinations of temperature and time normally used for effective pasteurization. If a sample of milk had been heated enough to destroy 98% of the enzyme it might safely be concluded that the heating had completely destroyed all tubercle bacilli.

Dr. STUART LAIDLAW, in the subsequent discussion, pointed out that, although there had been a considerable increase in notification of tuberculosis, the death rate was little changed. The number of deaths from acute bronchopneumonic tuberculosis had decreased during the war. With regard to diet, while the calorie intake available to the tuberculous patient was satisfactory, there was no doubt that an additional allowance of protein would be helpful in aiding recovery.

SAFEGUARDING LONDON'S WATER

In a lecture at the Royal Institution on "London's Water Supply—Safeguarding its Purity in Peace and War" Lieut.-Col. E. F. W. MACKENZIE, M.B., D.P.H., showed how, originally, it was the duty of the Corporation of London to provide the water supply for the population; how this right was later surrendered to private undertakings, and was subsequently restored to public ownership when the Metropolitan Water Board was formed in 1902. The Act by which the Board was created also imposed duties with regard to laboratory examination.

Col. Mackenzie told how London was assailed with a succession of epidemics of cholera from 1831 to 1856 and how Dr. John Snow proved that the infective agent was carried by water. At the beginning of this century London's water was purified by filtration through sand. Sir Alexander Houston, during his years of office as first Director of Water Examination, introduced many changes and improvements, including storage as a means of purification, chlorination, and mechanical filtration. These methods ensured the production of a pure and wholesome water; but, as more stringent tests for purity received authoritative approval, further steps were being taken, chiefly with regard to chlorination, to bring the water up to the desired standard.

The gathering war clouds after Munich brought new problems for those responsible for water supply, and it was considered that the enemy might attack the major works of the Board. It was realized that in the event of bomb damage and devastation chlorination might be the principal safeguard for the purity of the supply, so that every practicable step was taken to make it both adequate and reliable. Alternative laboratories were equipped in safer areas for emergencies. Safeguards against the introduction of chemical poisons and gas warfare were taken by placing special guards at the works, making provision for special tests to be performed on the works, and maintaining a staff of analysts and sample-collectors available day and night at the laboratories. Special arrangements were set up for the repair and sterilization of water mains, quite often contaminated by sewage from a fracture of an adjacent sewer. Much work was carried out in training and arranging for over 7,000 volunteers to provide emergency water supplies in the event of extensive damage to the works. The waterworks suffered almost every conceivable form of damage from air attack, but all the necessary protective measures were in readiness, and the purity of the supply of drinking water to London had been maintained as high as ever during these anxious years of war.

ACTION OF PENICILLIN

Some account of his early work on penicillin at St. Mary's Hospital, London, and of the action of the drug was given by Sir ALEXANDER FLEMING in a Campbell Memorial Oration to the Ulster Medical Society on Nov. 2.

He said he was repeating some experiments which had been done by Bigger of Dublin when a plate became contaminated by a fungus, and he noticed that all the colonies of staphylococci close to the fungus had disappeared. The fungus was the *Penicillium notatum*. Ordinary samples of the drug as a yellowish powder were only 10% pure; pure penicillin was a white powder, and we knew it as either the sodium or the calcium salt. Strengths which destroyed sensitive bacteria—mainly the Gram-positive ones—had no effect on leucocytes. It was stable in powder form; any reactions were due to impurities. The Oxford unit was the quantity of penicillin which, when diluted 50 times, would inhibit the growth of a standard culture of staphylococcus; this had recently become the international standard. Administration was either general by intravenous, intramuscular, or subcutaneous route, or local by injection into the area or by surface application. It was rapidly excreted by the kidneys, so a constant level in the blood was best maintained by a constant drip. Poor kidney function slowed up the excretion, and so saved penicillin. At St. Mary's Hospital all the cases of staphylococcal septicaemia treated with penicillin for at least 6 hours, with one exception, recovered; the exception was complicated by endocarditis. The results of penicillin administration in venereal disease appeared miraculous, some cases of gonorrhoea being apparently cured by a single injection. In the United States Army syphilis was being treated with 2½ million units in 7 days. If these results were confirmed in the future it would be possible to impose definite regulations to control venereal disease. At the front large doses of the drug had to be given because of the long intervals between treatments; this was wasteful but unavoidable at present. The use of penicillin in plastic surgery would mean that multiple procedures could be carried out in very much less time and the bogy of sepsis almost eliminated. It was now possible with penicillin to sew up a compound comminuted fracture of the femur and get union in six weeks. Penicillin injected into an abscess cavity would remain for 24–48 hours. It could be used in the form of a cream, a powder diluted with sulphanilamide or sulphathiazole, a snuff, a paint, or in a lozenge. It must be sterile; insensitive bacilli produced penicillinase, which destroyed the penicillin. It was the first antibacterial substance to be made from a mould, and as there were thousands of different moulds it was possible that another substance with even greater powers would be found.

Correspondence

Thiouracil for Hyperthyroidism

SIR,—In his paper (Dec. 9, p. 745) Dr. Nussey ascribes to me the view that the bloated appearance and listlessness which follow overdosage with thiouracil, are *not* manifestations of mild myxoedema. If by myxoedema is to be understood hypothyroidism then Dr. Nussey has mistaken me. In my opinion these symptoms are probably due to early hypothyroidism. My hesitancy in making an outright statement that this is their nature is that I have noted in such patients that, despite their clinical appearance of hypothyroidism, the B.M.R. may be within normal limits. Possibly the misconception of my views arose from the fact that the paper embodying them (*Proc. roy. Soc. Med.*, 1944, **37**, 693) has only just appeared, and that, prior to its appearance, statements concerning my opinions on this matter had to depend on recollections of the meeting at the Royal Society of Medicine on June 13, 1944, or on reporters' accounts of that meeting.

Dr. Nussey's statement that an initial leucopenia is no contra-indication to thiouracil therapy is of considerable importance. Personally I have avoided using thiouracil on such patients because I have feared that agranulocytosis might more easily be produced in them. If, as Dr. Nussey's results indicate, my fears were groundless it is welcome news, but it would be very unfortunate if his results were to give rise to the impression that the white cell count can now be disregarded in thiouracil therapy, or that treatment can be safely continued if the neutrophils in the blood are falling. It should be stressed that Dr. Nussey's statement refers only to leucopenia before treatment, and, in view of the acknowledged danger of agranulocytosis during treatment with thiouracil, it would seem advisable to await confirmation of his findings before accepting them in ordinary clinical practice.—I am, etc.,

University College Hospital Medical School, London, W.C.1. H. P. HIMSWORTH.

Hormones and the Prostate

SIR,—The theory of treatment of an enlarged prostate by oestrogens has been based on the supposedly physiological role of female sex hormones in the hormonal make-up of the normal human male. It is not surprising that this line of treatment has not yielded satisfactory results. Perhaps, therefore, the conception that the male produces female sex hormone should be reviewed critically.

In your leader on the germinal epithelium and the prostate gland (Dec. 9, p. 759) you wrote that "the normal man secretes both androgenic and oestrogenic hormones, the former from testicles and adrenals, and the latter from some tissue or tissues hitherto unknown." The use of the word "secretes" is unfortunate, and especially so in that the above sentence forms the background of the ensuing discussion concerning the alleged relation of both male and female sex hormones to the behaviour of the prostate gland.

The testis of course secretes the male sex hormone, and the adrenal cortex also elaborates a steroid derivative which contains the "androgen nucleus" but which is not androgenic in its physiological role. These hormones, slightly changed, are excreted in the urine and both are classed rather unfortunately as androgens. It is true that adrenal cortical tumours induce premature virilism, but the stimulation of certain tissues in that condition is probably due to production of (*a*) excess adrenal cortical hormone or a degradation product thereof, or (*b*) a metabolic variant with androgenic properties. As for the alleged secretion of oestrogens by the male, the evidence for this statement is based on the presence in male urine of steroids containing the "oestrogen nucleus." However, in view of the widespread distribution in Nature of substances containing the oestrogen nucleus it is likely that the greater proportion of oestrogens in male urine is exogenous and comes from the diet. If, then, a human male on an oestrogen-free diet continues to *excrete* oestrogen steroids, the substance is either (*a*) a hormone or a hormonal metabolite, or (*b*) a tissue metabolite. The fact that an oestrogen can be isolated from testicular tissue is not decisive as regards which alternative is correct, but the finding of relatively insignificant amounts of oestrogen in the urine of human males on an "oestrogen-free" diet might favour the thesis of a tissue (testicular) metabolite.

In the absence of access to his original paper it is out of place to criticize seriatim the experimental attempts of Törnblom, as set forth in your leader, to prove that the germinal epithelium elaborates an oestrogenic hormone which influences the prostate. There are alternative conclusions to those adopted by him in his reasoning sequence: these may or may not have been explored. It is not out of place, however, to point out that it is inherently unlikely that a tissue, such as the germinal epithelium of the testis, whose metabolic processes of cell division and differentiation are concerned essentially with the production of an external ejaculate, is engaged also in elaborating a hormone for distribution to other tissues in the body.—I am, etc.,

Department of Physiology, London Hospital Medical School. CHARLES REID.

Surgical Emphysema

SIR,—The report of surgical emphysema after intubation by Mr. Barrett and Dr. Thomas (Nov. 25, p. 692) reminds me of a similar occurrence, the path of the air through the trachea being, however, much more easy to understand.

In 1940 I saw a child of 2½ years who had had a persistent cough since an attack of whooping-cough 6 months before. *X*-ray examination suggested atelectasis of the left lower lobe. Bronchoscopy showed a moderate amount of pus in the left lower lobe bronchus. Lipiodol bronchography was done under general anaesthesia; a needle of the curved type, size 17 s.w.g., was inserted just below the cricoid for the purpose. After withdrawing the needle and during recovery there was considerable coughing, and about a quarter of an hour later the ward sister reported surgical emphysema in the neck. A quarter of an hour later the emphysema had spread to the shoulders and face, and the child was brought back to the theatre, as the persistent spread was beginning to worry us. There was no cyanosis. It was thought that the persistent cough was forcing air through the small hole in the trachea, and that the only way to stop the spread of air in the tissues was to cut down on the hole and lead any further leakage out of the neck. This was done when the abdominal wall was already crackling with air, but the small hole in the trachea could not be found; a tracheotomy was therefore performed under local anaesthesia. The child, however, gradually sank, without showing cyanosis; the superficial veins were so hidden that any overdistension could not be seen. It died about an hour afterwards.

At necropsy small air bubbles were found throughout the tissue planes, including the mediastinum and perirenal fat. The inferior and superior venae cavae were not distended, and the right heart contained only a small quantity of blood. The mechanism of death was not clear, as blockage of the great veins in the chest was not present, and no air was present inside the skull or in the blood stream.

The mucosa of the trachea is tightly bound down to the submucous and cartilaginous layers and cannot be stripped up; it is not clear how in Mr. Barrett's two cases the air got out of the air passages into the tissue planes. The mechanism is difficult to understand, especially as other cases have been reported, and I have had one myself, of idiopathic surgical emphysema of the head and neck appearing shortly after childbirth, or even after a single cough, mostly with spontaneous recovery, and in which no lesion was found on extensive investigation. Is it possible that the rupture occurred lower down in the bronchial tree and was unrelated to the tracheal trauma?—I am, etc.,

Hillingdon County Hospital, Middlesex. L. FATTI.

Episiotomy

SIR,—May I be allowed to add one or two small points to what you have already published concerning episiotomy and perineal repair? I am most concerned with anaesthesia and technique of repair.

Anaesthesia.—The method I use is a modification of the perineal nerve block technique described by C. Philip Brentnall (*J. Obstet. Gynaec. Brit. Emp.*, **50**, 226). I quote the relevant section:

"A point on the perineum 1/2 to 1 in. antero-lateral to the anus is chosen. Here, with a very fine needle (26 s.w.g.), an intradermal

vesicle is raised; the needle is then pushed forwards and the subcutaneous tissue of the anterior margin of the perineum is injected. A larger needle is then used (21 by 2½ in.), and is slowly thrust through the vesicle to a depth of 2 in., in a direction at right angles to the skin surface, the anaesthetic being injected as the needle advances and retires. The needle is almost withdrawn, and then directed forwards, but quite superficially, underneath the line of reflection of the folds of the labium minus and as far as the anterior extremity of the proposed perineal incision. The procedure is repeated on the other side of the perineum, and about 10 c.cm. of anaesthetic is injected into each. The object of the deep injection is to relax the superficial and deep muscles of the pelvic floor and to anaesthetize the deep perineal branch of the pudendal nerve."

This technique was described for posterior colporrhaphy and, using the proprietary "novutox," I modify it as follows. The same point is chosen, but if the patient is in labour a finger is passed into the vagina and is used as a guide to prevent the long needle from entering the distended canal. The injection is made in an outward direction instead of at right angles to the skin. Almost immediately after injection episiotomy can be painlessly carried out. I too use the J-shaped central incision described by Dr. Flew. The method is seen at its best in breech labour, when it is carried out as the anus begins to show with contractions while the anterior buttock is still receding in the intervals. Incidentally it is often adequate without supplement for low forceps delivery of the forecoming or aftercoming head. If "novutox" is used the analgesia persists for at least 2 to 3 hours, allowing painless repair. After delivery, for perineal repair, the technique is similar except that the injection need not be so oblique. I believe it to be the method of choice for complete rupture, though the simpler local infiltration is adequate for trifling tears.

Repair.—Methods involving buried catgut have not been as successful in my hands as the following. A 1½-in. diameter half-circle cutting needle is entered about 1/2 in. deep to the torn fourchette, and the vaginal mucosa is underrun with silkworm gut, keeping about 1/8 to 1/4 in. from it. The needle emerges at the opposite point to which it enters, enters again near the first point of entry, and emerges through the skin about 1/4 in. from the wound edge. It is then threaded on to the other end of the silkworm gut, which is brought out through the skin of the opposite side. A figure-of-eight suture is thus placed, having the deep loop larger than the superficial. As many such sutures are placed as are required, about 1/2 in. apart, and the ends grasped with pressure forceps or left loose. The upper end of the vaginal tear is then secured with No. 1 plain catgut and the edges co-apted by a continuous suture, taking about 1/4 in. each time right out on to the fourchette. After this the figure-of-eight sutures are tied. Traction outwards on the ends closes the deep part of the wound and tying closes the skin. The ends of these sutures are left long and tied together so as to avoid sharp ends in the perineum. They may be fastened to the thigh with strapping if desired. Silk or stout cotton is as effective as silkworm gut and possibly more comfortable. It is emphasized that the continuous suture is more of the nature of a dressing than of a repair, its main function being to keep blood and lochia out of the divided perineal body. If plain catgut is used, there is usually no sign of it by the twelfth day. Since the vaginal mucosa heals very rapidly, chromic gut persists after healing, acts as a foreign body, and cuts out. Apart from the measures directed to the anal mucosa and the divided sphincter, the same technique is used for complete tears.

May I in conclusion express my thanks to Mr. Percy Malpas for drawing attention to the possibility of early secondary repair of complete tears? I have tried it successfully and commend it to others faced with this distressing condition.—I am, etc.,

Stockport. WALTER CALVERT, D.R.C.O.G.

Bed-wetting and Spina Bifida

SIR,—The article on investigation and treatment of enuresis in the Army (Oct. 7, p. 462) brings to light an unnecessary waste of *x*-ray film, particularly at this time. In 1927 it was proved beyond a shadow of doubt that bed-wetting and spina bifida occulta had normally no relation whatsoever (*J. R.A.M.C.*, 1927, **48**, 38). The figures given there show that in 100 bed-wetters and 100 normal soldiers examined spina bifida occulta was found more commonly in soldiers who did not wet their beds (bed-wetters 16%, non-bed-wetters 21%).—I am, etc.,

Cairo. W. K. MORRISON.

Industrial Dermatitis

SIR,—I have followed with interest the recent correspondence on this subject, and I must say that I think Dr. G. P. B. Whitwell (Nov. 4, p. 607) has hit the nail on the head when he says it seems strange to him "that some dermatologists, instead of collecting rare and relatively unimportant skin diseases for exhibition at learned society meetings, have not long before taken more interest in workaday medicine and gone into the factories to learn something useful." Might I here point out that at the meeting held at the Royal Society of Medicine, Dermatological Section, on industrial dermatitis on May 21, 1942 (*Proc. roy. Soc. Med.*, **24**, 703), when I spoke at the opening discussion, my words were: "I have learnt a tremendous lot from visiting factories," and then proceeded to give a few concrete examples.

Having practised dermatology for over 18 years now in a large, modern, and progressive industrial Midland town, which draws on a large rural area as well, combined probably with the fact that all my life I have taken an intense interest in all things mechanical or electrical, I can say that there are few factories or manufacturing processes which at some time or another I have not visited, both in my capacity as a dermatologist and as an interested onlooker. I have seldom come away without learning something useful, either in dermatology or in ordinary domestic life. The only way to get aetiologically acquainted with industrial dermatitis is to know the hazards and potential skin irritants of industry and also their probable or possible effects on the skin of the workers.

The extremely varied nature of industrial processes makes this a most interesting and constantly changing mental kaleidoscope. Among simple things of wearing apparel one finds dermatitis in felt-hat workers caused by dipping the hat, moistened with sulphuric acid, into a solution of shellac and borax in order to proof it, contact dermatitis from chrome solutions used in tanning leather, and contact dermatitis from thermolabile plastics (which change their composition during treatment with heat and pressure) in the making of buttons. Among the engineering, aeroplane, and allied industries one comes across dermatitis due to contact with suds, mineral and lubricating oils, various cutting oils and compounds used as coolants, degreasers used to clean metal parts, synthetic plastic glues, various dopes, etc. Even the manufacture of medicinal preparations such as procaine, morphine salts, etc., may cause skin trouble, and the most recent I have seen in this category is mepacrine (alkyl amino-acridine). In the making of explosives trinitrotoluene, fulminate of mercury, etc., are well-known examples. In fact, with the ever-widening scope and range of industry, particularly in wartime, one finds it impossible to keep pace with its dermatological ramifications. Among the rural industrial dermatitis cases one comes across such cutaneous complaints as cattle ringworm from infected calves, orf from sheep, and dermatitis from artificial fertilizers, fungicides, etc.

The morphology of industrial dermatitis is in most cases just that of an eczema or dermatitis in its various stages, and usually, with the exception of certain things such as oil folliculitis, chlor-acne (due to chlorinated naphthalines), and chrome ulceration, it is just an eczematous type of rash. The diagnosis of its occupational origin is usually made from: (*a*) the presence of such a rash; (*b*) the exclusion of this rash being of constitutional or non-occupational origin; (*c*) rash usually appears on areas exposed to contact with potential irritant substances; (*d*) history of using or coming into contact with such an irritant. Patch-testing is of little or no practical value in my opinion. I have seen cases of occupational dermatitis resembling in appearance many non-industrial or constitutional skin conditions, and vice versa. Whatever may be said to the contrary as regards its differential diagnosis the cause of a rash on any worker, unless otherwise easily explained, is often a most perplexing and difficult problem, even among dermatologists.

With regard to the correspondence of Drs. Bourne, Mummery, and Whitwell on the value of various preventive measures against industrial dermatitis, I quite agree with Dr. Whitwell

that barrier creams, suitable detergents, general cleanliness, supervision, and protective measures are applicable, but, except in certain processes, barrier creams or washing only will not prevent trouble. In many cases the use of a barrier cream is not feasible, because one cannot get anything suitable to stand up to the hard wear and tear and friction entailed in the work done by, for instance, a mechanic working on a lathe with hands and forearms exposed for long periods to hot lubricating and cutting oils. Here satisfactory detergents of the higher sulphonated fatty alcohol type, or sodium alkyl sulphates in liquid form, are often most useful in removing the potential irritant as quickly and efficiently as possible. On the other hand, barrier creams are useful, as Dr. Bourne points out, in handling metol for developing, and I found this method satisfactory for operatives in a biscuit factory who were having trouble from contact with the sugar filling handled by them. Prevention of industrial dermatitis can be dealt with by the following combination of methods: (1) knowing the exact conditions and hazards of the job; (2) general cleanliness, supervision, and the use of suitable protective measures while at work, and the removal of any potential skin irritant with a suitable cleansing or detergent agent as soon as possible; (3) exclusion of employees suffering from, or predisposed to, dermatitis.

Under wartime conditions it is not possible to observe all the above criteria, as new and complicated processes are constantly coming out involving unknown risks and hazards which must be faced. The facilities for supervision and cleanliness may vary in different shops and factories, while shortage of personnel and material, and the introduction of "green" labour, all complicate matters. There has therefore been an increase in the number of cases of industrial dermatitis in this country during the war. Whether the increase has been absolute or is only relative, in view of the bigger number of workers engaged on war industries, it is not yet possible to say. However, we are not alone in this matter, as evidently even in America, where there has been considerably more literature and notice taken of industrial skin troubles, they are still much concerned about its incidence. Prevention is the only sane and sensible angle to tackle the problem from, and the best place to begin is at the source of the trouble —that is, in the workshop or factory.

Finally, please, Dr. Whitwell, do not think it strange that, as a dermatologist very keen on the industrial side, I like on occasion to display some rare epidermological entity, which I am proud to have discovered, even though it is not of occupational origin, before other colleagues at learned society meetings. After all, much of industrial dermatology is, like all branches of medicine, somewhat routine and dull; so that, having found a "Kohinoor," one is apt to become elated and display the treasure. Already I have a collection of cutaneous curiosities which, as soon as conditions permit, I hope to put on show in this manner.—I am, etc.,

F. A. E. SILCOCK,
Honorary Member of the Advisory Panel on Dermatitis, Ministry of Labour and National Service.
Leicester.

Examining the Neurotic

SIR,—I have only recently had the opportunity of reading Dr. McIntyre's letter (Jan. 22, p. 131) in which he criticizes his own misinterpretations of several items in a communication submitted by Capt. Charlton and myself (Dec. 25, 1943, p. 830). He accuses us of referring to the report of Stephenson and Cameron on anxiety states in the Navy as "the reiteration of symptoms alone." We trust that Dr. McIntyre is the only one who thinks so. If he refers to our communication he will no doubt appreciate where he has gone wrong. We certainly did not so describe what we consider to be an excellent piece of work. He has quoted us inaccurately and then proceeded to level a battery of questions which arise solely out of his own misconceptions.

In connexion with Sir Henry Tidy's observations (Oct. 16, 1943), that "prolonged investigation and minute inquiries tend to produce or increase a psychoneurotic factor," we suggested in our letter that "this was particularly true of dull, highly suggestible patients who are prone to exhibit neurotic dyspepsia." We did not assert that this type of patient *only* exhibits neurotic dyspepsia.

In another paragraph of our letter we remark: "It is important to correlate personality types with the relevant anxiety reaction." Dr. McIntyre accordingly accuses us of regarding neurotic dyspepsia as the anxiety reaction exhibited by dull, highly suggestible patients, and presents that as a "composite assumption" of our production. He then questions us on this assumption, and asks if we have satisfied ourselves on a number of difficult points, to wit: (*a*) that dull patients are uncommonly suggestible; (*b*) that dull patients are uncommonly prone to neurotic dyspepsia; and (*c*) that it is the more suggestible of the dull who are so prone.

With regard to (*a*) and (*b*), I have never asserted that dull patients are either uncommonly suggestible or uncommonly prone to neurotic dyspepsia. My reference was to dull, highly suggestible patients. With regard to (*c*), it is obvious that the more highly suggestible a dullard is the more prone he will be to neurotic dyspepsia or for that matter psychoneurotic illness generally. Suggestibility indicates instability, which is the essential criterion in establishing the presence of psychoneurotic illness. Neurotic dyspepsia is no more prevalent among dullards than intellectuals, but dull, highly suggestible dullards are very prone to acquire neurotic dyspepsia if hospitalized, investigated, and surrounded by a host of dyspetic cases.

Nothing that I have said warrants the assumption that dull, highly suggestible patients should be deprived of gastric investigation if the symptomatology and clinical picture suggest a *prima facie* organic disorder. The gastric investigation which is recommended in *all* cases of neurotic dyspepsia by Stephenson and Cameron (Nov. 13, p. 603) prior to the psychiatrist being called in is, in my opinion, just as liable to provoke the condition in some as identify it in others. In Service patients it is particularly important to decide rapidly on the scope of investigation and treatment. No hard-and-fast rules can, however, be laid down. Whether the case is to be regarded as a psychiatric one or a medical one will depend on the history, clinical condition, personality, attitude, and intelligence of the patient. Once the diagnosis of neurotic dyspepsia has been suggested, however, the treatment or general approach to the problem surely calls for the attention of a psychiatrist and not a gastric investigation.

Dr. McIntyre in a final endeavour to invalidate our communication asks why dull patients should permanently imitate symptoms if they have the general attribute of high suggestibility. The explanation is that certain suggestions are more potent than others, and the desire of unstable dullards to escape from their maladaptation in the Army is of more potent suggestive value than is the suggestion that they are not suffering from dyspepsia.—I am, etc.,

ELLIS STUNGO,
Major, R.A.M.C.
India Command.

Diagnosis of Psychotic Symptoms in Atebrin Intoxication

SIR,—I should like to draw attention to a combination of conditions which may cause, and, in fact, in my experience has caused, confusion. This is the intoxication from atebrin combined with the pseudo-positive Wassermann reaction due to the presence of malaria parasites in the blood. Atebrin (mepacrine) intoxication, which occurs when excessive doses are used—two to three times normal—shows itself mentally by a florid hypomanic state, sometimes with vague paranoid delusions, often of grandeur. The visual hallucinations so common in toxic-confusional states are absent. The appearance of such a psychosis naturally leads to a Wassermann test being performed. This, as Manson-Bahr points out (Manson's *Tropical Medicine*, p. 100), is frequently positive in the presence of malaria parasites in the blood (the C.S.F., I believe, is usually normal). The discovery of psychotic symptoms with a positive Wassermann reaction may lead to the erroneous diagnosis of general paralysis. I have recently seen such a case from North Africa in which this was diagnosed. The man's wife was informed of this serious psychosis and told that he was syphilitic, and possibly she and their children were infected also. Such a diagnosis nearly wrecked this gentleman's career and might have ruined their happy marriage.—I am, etc.,

CLIFFORD ALLEN.
London, W.1.

Toxicity of Amino-acridine Compounds for Leucocytes

SIR,—In your issue of Dec. 9 this question is raised in two articles: Barber and Hazlewood (p. 754) state "these compounds are toxic to leucocytes and tissue cells," while the reviewer of Hobart and Melton's book (p. 757), by way of correcting the authors, says of acriflavine, "antiseptic concentrations kill polymorphonuclear leucocytes." Recently I summed up the evidence (this *Journal*, 1943, **1**, 341). Five contributors on the problem (Albert *et al.*; Browning *et al.*; Gay and Morrison; Rubbo *et al.*; Welch *et al.*) found by *in vitro* experiments that the toxicity was low relatively to the antiseptic or bacteriostatic action; two (Abraham *et al.*; Fleming) concluded the opposite. Tissue-culture experiments led to a similar contradiction; here again those who found high tissue toxicity were in the minority numerically. These divergencies suggest that the results are decided largely by the methods of the workers. Fortunately, the evidence for the value of these and other surface antiseptics has a wider basis than such *in vitro* experiments. Did not certain experimenters, now apparently converted, demonstrate to their own satisfaction from glass models that effective local chemotherapy of infected wounds was an impossibility?—I am, etc.,

Bacteriology Department, The University, Glasgow. C. H. BROWNING.

Artificial Respiration

SIR,—Dr. F. W. Roberts's criticisms (Dec. 9, p. 769) of my letter (Nov. 11, p. 643) call for an immediate reply. I do not wish to go into too lengthy a debate as to which of the two methods we respectively described is the better one to use. I dare say we both could produce a host of evidence that the one is as effective as, or better than, the other, but I think it will be generally agreed than an oxygen apparatus is not always available for the method of artificial respiration as described by Dr. Roberts, whereas the injection method of "chemical resuscitation" as described by me can always be done, irrespective of the patient being in an operation theatre or on the roadside.

I made no mention of an unobstructed airway, for surely that would be the first consideration given to an asphyxiated patient before any further treatment was rendered!

The very fact that anoxia can be relieved by chemical resuscitation is proof enough that an oxygen apparatus is quite unnecessary, but what is absolutely necessary is to start the respiratory mechanism functioning as soon as this can be done, as all the oxygen possible would not start this mechanism functioning if the vital centres in the brain were not stimulated to bring it about. It is brought about by reducing the increased venous pressure and increasing the arterial pressure, which nikethamide does. "The proof of the pudding is in the eating," and one's experiences in such conditions are always worth more than any argument.—I am, etc.,

London, S.W.16. A. H. BARTLEY.

Diphtheria with Severe Tetanus

SIR,—Dr. J. C. Hawksley (Dec. 2, p. 736) does not, I think, give any convincing evidence that his patient was suffering from diphtheria. A positive throat swab unsupported by clinical signs is not enough on which to found a diagnosis. Even if the organisms were virulent their presence implies no more than that the patient was a carrier.

It should be borne in mind that tetanus may begin with sore throat. In a patient who came under my care some years ago, a woman of 37 years, this symptom together with difficulty in opening the mouth led to her being sent to a general hospital as a case of quinsy. Laryngeal spasm and dyspnoea ensued, and she was transferred next day to this hospital with the diagnosis of laryngeal diphtheria. On admission the symptoms of tetanus were evident and death occurred within 48 hours. The patient had had an abortion a week before the onset.—I am, etc.,

Shieldhall Fever Hospital, Glasgow. WILLIAM NAPIER.

Mass Radiography

SIR,—Any pronouncement on the subject of radiology of the chest from such an authority as Dr. Peter Kerley always merits close attention.

I hesitate to trespass on the province of the radiologist, but I imagine that every experienced tuberculosis physician will endorse whole-heartedly Dr. Kerley's statement of Nov. 25 (p. 706) that "the detection of early cases [of pulmonary tuberculosis] is only possible with the most meticulous technique," but this fact does not appear to be generally appreciated. It cannot be denied that the technically imperfect skiagram is not uncommonly a source of erroneous diagnosis by those inexperienced in chest work and ignorant of the pitfalls of radiography—often greatly to the patient's detriment. Chest physicians who have handled a large number of skiagrams from many sources cannot but be impressed by the wide variation in technique. It should be realized by those administrators and clinicians who are not fully informed that chest radiography is a highly specialized subject, and that a low-grade *x*-ray plant cannot be expected, other things being equal, to produce as good results as the more powerful installation. These, surely, are self-evident facts.

With the introduction of mass radiography the need for the technically perfect skiagram becomes still more urgent, especially in following up and assessing "the latent and subclinical cases" brought to light to which Dr. Kerley refers. Many of these cases, we know from personal observation, remain static over a period of years while the individual continues to pursue his usual mode of life. The superficial observer might be tempted to make a diagnosis of active disease at one examination alone, and send such a case for prolonged treatment with consequent needless expenditure of time and money, not to mention disruption of business and domestic life. The more cautious and experienced physician, however, will in the first place assess the case as accurately as is humanly possible, watching intently for the earliest indications of any deterioration. Serial skiagrams of the highest quality are essential for this purpose, and for their production a high-grade *x*-ray plant with a competent radiographer widely experienced in chest work is a *sine qua non*. Inferior equipment has no place in the campaign against tuberculosis. In the planning of our future chest clinics these facts must be given prime consideration.—I am, etc.,

Chester. DAVID W. TOUGH.

SIR,—Permit me to comment on some of the salient points raised by Dr. Peter Kerley (Nov. 25, p. 706). By asking manufacturers to "co-operate," the intention should have been obvious that it was the blue-prints that should have been available to all, so that production could be speeded. When Rolls-Royce engines were in short supply they were soon being produced not only in England but also in the Dominions and the U.S.A.

Anyone proposing to operate outside the Ministry's scheme is politely asked to refrain. To interpret this other than control is difficult to understand.

Over diagnosis Dr. Kerley appears to be in conflict with some of his earlier utterances. On Nov. 19, 1943, at the R.S.M., he stated that it was proposed to train medical officers "to spot disease on miniature films like young boys train themselves to spot different types of aircraft." He now accuses me of showing "no appreciation of the difficulties of diagnosis." I would refer him to the *Journal* of Sept. 14, 1940, when I stated: "It is agreed that chest radiographs are often difficult to interpret, and hence the necessity for real experts in this branch of work," and subsequently I have stressed this point on a number of occasions.

As to my "astonishing ignorance of technical advances," only recently, while a guest of a firm whose employees were being examined, I watched one of these units in operation. Except that it took three days to cover the first 1,000 cases there was nothing fresh in technique, and there is really nothing to prevent training technicians for this kind of work reasonably quickly.

Dr. Kerley now agrees that 3,000 cases a day could be examined with adequate organization, and I hope no "slap-dash." He further confesses the existing organization cannot muster the necessary volunteers for such a rate of flow, and suggests it could only be done by compulsory methods using "force." The suggestion does not warrant further consideration for operation in this country. All that is required is efficient and attractive propaganda, complete with talking films (as the present one), lecturers to explain to the public what it is all about, and these to go in advance of the unit. Also

efficient clerical staff to arrange appointments, and to see these are kept. A few mass radiographic units, incorporating stereoscopic miniature films from America, would add to, and perhaps enhance, the working of our limited home supply. Organization on efficient lines such as these, I am confident, would not offend the professional acumen of the Ministry.—I am, etc.,

London, W.1. NORMAN P. HENDERSON.

"Skiagram" and "Bismuth Meal"

SIR,—With reference to this matter, while I cannot claim to have spent my entire youth in the study of dead languages, but rather in the study of mathematics, physics, and chemistry, with several modern languages as subsidiary subjects, I can claim several times to have read Roentgen's original papers in the Würtenberg *Bericht der phys. Med. Gesellschaft.* Roentgen's discovery was by no means a "stumble," but a result of systematic research, and his two publications are masterpieces of such research and will always remain so. While I have fought his countrymen at close quarter, I am not prepared to see Roentgen and his work belittled owing to wartime patriotism. Like Faraday, Kelvin, Shakespeare, and many others, Roentgen's memory has been honoured not only in his own country but in many others, including the statue in Leningrad erected to him.

Probably the earliest radiological journal in the world was *The Archives of Clinical Skiagraphy*, published by the B.M.A. in 1896, which the next year became *The Archives of the Röntgen Ray*, and the term "skiagraphy" rapidly fell into disuse. While High Court judges with a classical education frequently use the term "the *x*-ray shows, etc.," generally the photo-sensitive film upon which a shadow is cast by *x* radiation is now more commonly referred to as a "radiograph." This is usually produced by a "radiologist" or a "radiographer," the former by common custom being a qualified medical man and the latter a layman, but there is no legal definition, and any layman can call himself a radiologist. If Mr. McAdam Eccles requires an internationally accepted word, then he must abandon the word "skiagram," long since disused not only in this country but by the other great English-speaking nation. While there is the *American Journal of Roentgenology* (the use of "oe" is, of course, due to there being no umlaut in English), and in the letterpress "roentgenogram" is more generally employed, the advertisements use "radiograph," which is more commonly used in *Radiology*, the other U.S.A. journal. "Radiograph" corresponds to the titles of most of the Latin origin journals, which (for brevity) use "radiologie," "radiologia," "radiologica." It is unlikely the whole world would be willing to change titles to "skiagraphie," etc.

I would like to take the opportunity to mention a more serious retention of an out-of-date radiological term—i.e., "bismuth meal." For multiple reasons, one being known cases of poisoning, bismuth salts have not been used for nearly 30 years, but "bismuth meal" is still frequently used for the present-day "barium meal." A few years ago a lady was sent to me with a consultant's letter requesting a bismuth meal. As I mentioned a barium meal during the examination the patient queried the nature of the examination, and again the next day at the request of her husband, an analytical chemist. Due explanation was given, but later, while the amount was in no way queried, my fee was queried on the grounds: (1) I had not done a bismuth meal but used "a cheap substitute"—i.e., barium sulphate; (2) the consultant had requested the examination in order to show a gastric ulcer, which I had not done (the stomach being negative), but shown gall-stones, which had not been requested. I replied to the patient's husband that the particular consultant was entirely behind the times in requesting a "bismuth meal," and that I was not prepared to confirm an incorrect diagnosis when his wife's trouble was due to gall-stones, found incidentally at examination.

Mr. McAdam Eccles gives in his list "*x*-ray plate." *X*-ray plates, except for some spectrographic investigations where emulsion shrinkage is of importance, are practically obsolete. If, therefore, I am asked to produce "*x*-ray plates" and produce "*x*-ray films," what is my legal position? My defence would be that after I have demonstrated a pyloric ulcer it is not my affair to determine whether a gastro-enterostomy or a partial gastrectomy is performed, as I have not the surgeon's experience. Conversely it is not the surgeon's matter to determine whether I use a bismuth or a barium salt, or *x*-ray plates or films, their number, positions, periods, and sizes, etc.—I am, etc.,

London, E.7. BERNARD LEGGETT.

Relation of Neurology to Psychiatry

SIR,—The increasing obscurity of the relation of neurology to psychiatry and psychopathology seems to render desirable a dispassionate review, not only to make clear essential differences but also to define that field which may properly be regarded as common to them both. Unnecessary barriers should be removed to ensure continuity of knowledge, but important also is the maintenance of a proper perspective as to the scope and emphasis of disparate though related subjects, especially when each is already vast. This question of interrelationship has come increasingly to the fore from a variety of causes, among which may be mentioned the recent notable advances in psychiatry in treatment by physiotherapeutic methods.

Neurology, while distinguished for its diagnostic precision and accuracy of localization, where treatment is concerned remains at a disadvantage, being beset by the impossibility of repair where neurons within the central nervous system have been seriously damaged or destroyed. In treatment, therefore, save exceptionally, the neurologist is limited largely to measures of prophylaxis against further incursions, together with the fostering of compensatory developments in such tissues as remain intact. It is from observations in the compensatory or reactive field that such great names as those of Hughlings Jackson, Ferrier, and Horsley, or, more recently, that of Goldstein are linked with findings of psychiatric import. This, then, is our common field—a field which for neurologists should be limited strictly to dysfunction of mind organically determined—i.e., by physical causes operating upon central neurons and which, while not primarily psychical, are such as are known to produce with constancy concomitant though incidental and secondary psychical effects. It is only when one approaches the study of conditioned reflexes that neurology merges into the sphere of the psychical, and this field belongs rather to neurophysiology than to clinical neurology proper.

As to psychiatry, its field is infinitely wider and scarcely to be delimited, encompassing as it does the reaction of the total organism to life situations of every kind. These must be viewed in their successive stages of development, which not merely date from the time of individual conception but include also mankind's archaic inheritance and remote ancestry. In such a field, man's total somatic constitution, to say nothing of its specialized parts such as the organic nervous system, represents but one aspect. Regarded from the evolutionary standpoint and the relation of mind to body, the development of a nervous system is a refinement only recently acquired and in no wise indispensable. The unicellular organisms such as the amoeba manifest the essential threefold primary aspects of mind—namely, cognition, conation, and affect even as does man—despite the total absence of a nervous system; it is simply a question of degree.

Where psychiatry and psychopathology are concerned, the emphasis is no longer upon the organic but upon sequences of subjective experience in their varying degrees of intensity and quality of appreciation. The bias which prefers an organic aetiology in the psychiatric field is attributable to the influence of a medical curriculum still strongly Victorian in its materialistic flavour. Hence psychogenesis, even when based upon constitutional predisposition, is still popularly regarded as inadequate in causation of mental disorder without the presupposing of additional endogenous or exogenous organic pathogenic factors. This remains the case despite the frequent total absence of demonstrable organic lesions such as constantly are sought but rarely found concomitant with gross examples of mentally disordered states, whether investigated clinically, biochemically, by necropsy, or histologically. The organistic diehard then usually resorts to the questionable hypothesis of colloidal or molecular changes of an order such as only future technical advances could hope to demonstrate, and so he adheres to his hypothesis as if otherwise aetiologically destitute. As a preliminary approach to every psychiatric case, I would

not for a moment attempt to minimize the importance of a thorough neurological examination, but would stress that such is but a part of the somatic total field. While every somatic disturbance has its psychical repercussions, slight though these may be, the converse is not necessarily true. The sufferer in mind altogether frequently appears organically sound, though morphological analysis often reveals an inborn imbalance and a disproportionate degree of representation of the basic elements such as characterize every somatic constitution—namely, of endomorphy, mesomorphy, and ectomorphy. A constitutional analysis, combined with the even more exacting psycho-analytical approach, can provide an adequate basis of understanding of the greater proportion of psychopathic problems without the need to infer the presence of non-demonstrable organic disease, nervous or otherwise. It seems safe to prophesy that the medicine of the future will in its entirety be psycho-somatically oriented, and this not excluding surgery, since psychical aspects permeate every known field.—I am, etc.,

Warlingham Park Hospital. WM. H. SHEPLEY, M.D.

Service Medicine

SIR,—The letter of your correspondent who signs himself "Under Thirty" is so very succinct and to the point that it ought to have as much publicity as possible among both the public and the profession. His remarks on the subject of forms and the filling-in of forms, with the resultant subduing of the professional instinct and gradual development of the State servant, are well known; but his four demands, should any State service come to being, cannot possibly be known well enough. So symbolic are they of all that is finest and essential in our profession that I would like them to form the basis of our policy, and I do not apologize for repeating them: (1) Freedom to treat any patient in the manner I think best, with the full resources of medicine at my command, without the introduction between of any third party whatsoever. (2) Freedom to criticize the scheme in any way I like. (3) Freedom to practise where I wish and to choose any branch of study I wish. (4) That neither my conduct nor my treatment in the practice of medicine may be officially censored or criticized except by a properly elected council of my peers.—I am, etc.,

Plymouth. S. M. DAVIDSON.

SIR,—I cannot entirely agree with Mr. R. Ogier Ward's views on Service medicine (Nov. 25). I suggest that either he spent the greater part of his period of service with units in which morale and efficiency were exceptionally high and where the majority of the men were of high medical category, or that his views are the result of wishful thinking. It is indeed satisfying to think that the majority of our patients truly need our advice and guidance, but I venture to suggest that if, after making a clinical diagnosis, Mr. Ward had obtained independent reports on the character and efficiency of his soldier patients from company and platoon officers and N.C.O.s, his assessment of the degree of disability would have required considerable modification in the majority of cases.

After variable periods of time Service doctors gradually reach the conclusion that many of their patients are coming to see them in order to "try and get away with something." The average medical man is usually very reluctant to admit that such a state of affairs can exist—it is foreign to his idea of the doctor–patient relationship—but when he does realize what is going on the routine sick parade degenerates into a daily battle of wits between doctor and patient, and, as "Under Thirty" puts it, "a man has to prove he is ill before you start to think of him." This attitude is deplorable but eventually inevitable, and the genuine cases are liable to suffer as a result of it. Without independent opinions from unit officers an accurate assessment of disability is often impossible. The degree of exaggeration varies from unit to unit and with changes in the war situation. I agree that true malingering is a rarity, but failure to recognize exaggerators as such will result in a very unfair distribution of man-power.

It seems that Mr. Ogier Ward does not admit that some of his soldier patients tried "to get away with something," and his memories of Service medicine are probably quite pleasant in consequence.—I am, etc.,

"TWENTY-NINE,"
Captain, R.A.M.C.

Local Government

SIR,—As you say, it is a matter for profound regret that more interest is not taken in local government. It is important from a general point of view, and especially concerns us as a profession at the present time. Why it falls so lamentably short can be discussed from the point of view of personnel—officials and councillors—and machinery.

Locally conditions vary, and there are exceptions to all rules, but I have been astonished at the second- and third-rate type of official that is too often found. In so far as he is a relic of unhappy bygone days it is understandable, but there is still too great a tendency, especially among smaller authorities, to look with an indulgent eye on the second-rate but amenable type of official. Sycophancy still pays better than technical efficiency. This latter quality, with a broad, statesmanlike outlook, is much to be desired in present-day circumstances.

As regards councillors, there is also here too great a tendency to elect the vocal exhibitionist type to the exclusion of the other type—the salt of the earth—who, while yielding nothing in his desire to serve his fellow men, prefers to work in the background. The latter dislikes intensely the obviously distasteful aspects of political life. Up to the present he has had ample opportunities for performing his social duties in a congenial atmosphere, but the all-embracing tentacles of the bureaucratic and political octopus threaten us. His valuable, indeed irreplaceable, help will go by default. (The municipal and voluntary hospitals form a good example of the different atmosphere created by the political and non-political set-up. In the one there is apt to be a constant "looking over the shoulder"; in the other this does not exist.)

As regards the machinery, in these days of quick communications the obvious line appears to be bigger councils (100,000 population should not be too big a figure) grouped in regions much bigger than the county. This region could have a liaison officer attached directly to Whitehall. This should much simplify and accelerate procedure. Though it would not entirely obviate the danger, the scope for parochial-mindedness and for the appointment of the inferior type of official would be much diminished.

This still leaves the most difficult of all the problems: the utilization of the non-political but public-spirited members of the public already referred to. Co-option, of course, is the answer. (Incidentally the best committee with which I had to work was virtually a co-opted one. It did its work conscientiously and unobtrusively. The subject of its activities, though important, were not spectacular and did not appeal to the average councillor.) Those politically minded, who have gone to the trouble of being elected, have no use for co-option. Their argument runs thus: no taxation without representation; we are the elected representatives of the taxpayer; therefore all activities involving expenditure of public money, in fact all activities, must be in our hands. And co-option, generally speaking, will not be welcomed.

This, of course, is pushing the argument to absurdity. Conditions are very different to-day from what they were when the principle was first enunciated. I can imagine nobody getting away with the spending of public money, directly or indirectly, for any length of time without being pulled up if he betrayed his trust. A possible solution, though this also would be frowned upon, would be to appoint advisory councils, leaving the final decision to the elected representatives. I should have liked to elaborate these arguments, but I am mindful of paper shortage and editorial patience, but I hope to see the matter kept alive.—I am, etc.,

Farningham, Kent. C. M. OCKWELL.

Tuberculosis in Kent

SIR,—I could answer Dr. Constant Ponder's letter (Nov. 25, p. 708) at great length, but the danger of State control of medical services is so well known to your readers that I would ask you only to print a few headings.

Of course Dr. Ponder and the medical committee for Kent do their best, but it is the system under which they work that breaks down, and it is harmful to the best interests of the patient. In voluntary hospitals the first thought is the patient. In State or municipal hospitals, organization, or, as Dr. Ponder

calls it, "normal procedure," tends to take first place. I know of one hospital of nearly 1,000 beds, which comes under the Kent County Council. Their committee meets once a month; their "decisions" have to go to Maidstone, 40 miles away, for confirmation by a committee which meets once every three months.

In a hospital run by responsible people the sense of frustration caused by the delay in taking decisions has to be experienced to be believed. In a voluntary hospital, the medical officer in charge can and does give quick decisions over anything which may affect the welfare of the patient. If the decision is a big one I understand that, in voluntary hospitals, the house committee meets once a week.

Directly a doctor becomes an administrator it is not, in the nature of things, possible for him to keep up to date to the same degree as a consultant.

And, forsooth, Dr. Ponder takes exception to my asking the advice of the tuberculosis officer on the spot, because he is—"tell it not in Gath"—a subordinate official and is not in a position to speak on the council's policy.

Of course no one realizes better than I the difficulties of wartime, but instances are still coming to me of persons suffering from tuberculosis who are compelled to live in their homes, and, in the opinion of one tuberculosis expert, one "free" case affects on the average eight or nine others. The vicious circle now being created will take ten or twelve years to break down. Of course this is a national problem, but it is my duty to bring to the notice of the authorities the sufferings and disabilities of my constituents, and I shall continue to do so, regardless of personalities. It is interesting to note that Dr. Ponder thought the matter sufficiently worth while to write to the *British Medical Journal*. *Qui s'excuse, s'accuse.*

Through the "Fighting Fund for Freedom" (1, Dover Street, W.1), of which I am chairman, we are doing all we can to educate the voters of this country against the mortal danger of State control, of which an outstanding example is the medical White Paper recently issued by the Government; and in this nation-wide movement we should welcome the help and co-operation, already strongly in evidence, of doctors and nurses.—I am, etc.,

Knockholt, Kent. WALDRON SMITHERS.

The Young Married Doctor

SIR,—Your correspondents Tom Barns and "Y.M.D." (Sept. 23 and Oct. 14) have stated admirably the case for the recently qualified man who wishes to marry, and it is not too soon. For such a man general practice offers a solution—hard work, a home, and a living wage for two, which is what a young man wants at the start of his career. Many men enter successfully and efficiently this branch of medicine, for the practice of which it has been truly said that "no doctor is too good." There are others, however, who feel that they must continue their hospital work, with a view either to broadening their general experience or to specializing. Marriage completely and effectively blocks this prospect in the majority of cases; and such a position is most unsatisfactory and quite unnecessary. All too often the attitude adopted by those in responsible positions is unreasonable. It is usually twofold: first, that, as in other professions, a man must wait and work until he can afford to marry; and, secondly, that for some indefinite reason it is more difficult for a young husband than a young bachelor to make a success of hospital work. Neither of these views, though they appear superficially sound, bears careful scrutiny. With regard to the first, at 25 many men have waited long enough and worked hard enough to entitle them to the privilege and responsibility of marriage by the standards of other professions. That resident's pay and hospital rules preclude this is not the resident's fault, and, as "Y.M.D." points out, the reform would be simple and comparatively inexpensive.

It is more difficult to understand the origin of the second fallacious view, but I think it probably springs from the assumption that the work of a married man, working in hospital, will inevitably suffer from his anxiety to "down tools" and get home at the earliest possible moment. This, of course, is an extremely ill-conceived idea; a married man keen enough to aim at the highest technical knowledge via long years of study is no more likely to neglect his work than his bachelor colleague (whose leisure hours are not always, as many believe, spent with reference books, histological preparations, and case sheets).

The problem is probably not one which is exercising the minds of those shaping the future of the medical world, and this is partly understandable. It must, however, be recognized that it exists as a problem to many, whose numbers are increasing every year. It is encouraging that the subject has been raised; let us hope that it will not sink out of sight again before something constructive has been done about it.—I am, etc.,

"MARRIED DOCTOR."

Obituary

E. FRETSON SKINNER, M.A., M.D., F.R.C.P.

The life of Edward Fretson Skinner, senior physician to the Royal Hospital, Sheffield, ended abruptly on Nov. 28. An hour before his death, after the last ward round, he had a severe attack of angina. It passed off. Though advised to remain and rest he insisted on going to his consulting rooms to see a child. It was there he died.

Dr. Skinner was born in Sheffield 64 years ago. His ancestors have been doctors for several generations, his father and grandfather having been practitioners in Sheffield before him, and the former was for a number of years lecturer in osteology in the Sheffield Medical School. His uncle was also a doctor, and his brother, who died last year, conducted a very large general practice in the city for many years. He was educated at the Wesley College, Sheffield, and proceeded to Cambridge in 1899. He took up rowing with enthusiasm and rapidly became a marked man. He began to train with the Cambridge crew for the boat race, but had to drop out on account of illness. After graduating he studied medicine at the Sheffield Medical School and obtained the Conjoint Diploma in 1906. In 1907 he took the Cambridge M.B. and in 1909 the M.R.C.P.Lond. In 1922 he was elected to the Fellowship of the Royal College of Physicians and in 1935 he took his Doctorate in Medicine.

After doing various house appointments at the Sheffield Royal Hospital he was elected to the staff to take charge of the skin department in 1911. At this period he studied for a time in Paris under Sabouraud. In 1919 he was made assistant physician to the hospital, becoming full physician in 1931. He continued to serve the hospital with great distinction to the day he died. He served in the last war in France, and after being invalided home was attached to the Wharncliffe War Hospital in Sheffield, the same hospital where, during the last five years, he has been director of the centre for psychoneuroses under the E.M.S. He lectured in psychological medicine in the University and presented to his students a clear outline of basic principles which he published in a useful little book, *An Introduction to Medical Psychology*. He possessed a profound knowledge of folk-lore and kindred subjects. He wrote a number of brilliant papers on totemism, witchcraft, etc., and he loved to delve into the habits and customs of ancient man.

His interests in medicine were wide. Dermatology had led him to the study of syphilis, syphilis to neurology, and then on to psychological medicine. It was here that his powers were to be fully extended. It was relatively late in life that he turned to this branch of medicine, and his signal success in it was due not only to the man with exceptional natural gifts meeting opportunity but also to the broad and secure foundation in general medicine that had been well and truly laid during many years of hospital and consulting practice. His greatest interest was the development of a psychiatric department as part of a general hospital service. In fact only a week before his untimely death he submitted to the medical staff plans for its furtherance. Already there were at work a neurologist and neurosurgeon and himself forming the nucleus of such a unit. His colleagues will endeavour to promote the fulfilment of his schemes.

Dr. Skinner was a man of great nobility of character. He was absolutely without any pretentiousness or ostentation of learning, yet he exerted an immense influence on all who were brought in close association with him. He was a psychologist whose success in dealing with the aberrations of the human mind and conduct was the outcome of a deep understanding and sympathy with human weakness and misfortune. His kindness and sympathy were felt by all who came in contact with him, and none could doubt his absolute

sincerity. He was unsparing of his time and patience in consideration of the grievances, complaints, and difficulties which he had to listen to. The result was that he seldom failed to win the confidence of his patients and to inspire them with the feeling that he was their true friend. There are many people in the district—patients, students, and colleagues—who will be feeling that by his death they have lost their chief support and stay in life's troubles.

Dr. Skinner had known attacks of angina for many long months, but was determined to live as though he had not. Courage, fortitude, and resolution of high order enabled him to do this, and so the pattern of his busy life remained unchanged until the end. His ashes will be scattered over the gorse and heather on the wind-swept moor of Moscar which he loved so well.

A. G. Y. and C. G. I.

J. H. WATSON, M.B., F.R.C.S.

We regret to announce the death on November 27 of Dr. J. H. Watson, surgeon to the Victoria Hospital, Burnley, and consulting surgeon to the Burnley Municipal Hospital. He was born in 1875 at Atherton, Lancs, and studied medicine at the University of Liverpool, King's College, London, and the London Hospital, qualifying in 1897, taking the M.B., B.S.Lond. in 1903, and the F.R.C.S. in 1904. He joined the B.M.A. in 1898, was a Fellow of the Association of Surgeons of Great Britain and Ireland, and during the last war served as surgical specialist with the Salonika Forces, attached to the Royal Serbian Army. He had been demonstrator of anatomy at the London Hospital, lecturer on anatomy at Birmingham University, and was Arris and Gale lecturer before the Royal College of Surgeons in 1906. He acted as English subeditor of the *American Journal of Surgery*. The following appreciation is from his colleague "J. G.":

John Harry Watson came to Burnley in 1906 to join the practice of the late Sir James Mackenzie and Dr. Crump. In 1907 he was appointed to the surgical staff of the Victoria Hospital, to which he remained attached until a short time before his death, being for many years senior surgeon. He gave up general practice in 1922, and devoted his time to consultant work. He was police surgeon to the borough for 30 years. The Victoria Hospital and its welfare was his chief life-work and hobby, and everything which could advance its interests was always a labour of love to him. He had the satisfaction and happiness of seeing its number of beds practically doubled and of being the prime mover in the establishing of a radium clinic there, of which he was the first director. He worked ceaselessly for improvements and was chiefly instrumental in the building of two magnificent and up-to-date operating theatres, and of the new out-patient department. He had a happy knack of persuasion and got many of his old patients and friends to subscribe such sums as the renovations he envisaged would require.

Watson was a keen student of surgery and a member and past president of the Manchester Surgical Society. He was also a member of the North of England Surgical Club, through which he made contact with surgical work and advances in many countries in Europe and in North America. He was himself a distinguished figure, tall, slim, with silver-grey hair, clear-cut features, and a lively eye and lovely hands. His technique was flawless, his touch most gentle, and his operating skill a delight to see. He set himself a very high standard and rarely failed to come up to it. He was always a student, built up an excellent personal surgical library, and read widely, especially in the history of surgery, and with special reference to the Hunterian period. His work was his chief hobby, but his longing for fellowship and service led to his becoming founder president of the Rotary Club of Burnley, with which he remained associated to the end of his life. He was also keen on gardening, and during many months of the year proudly sported his buttonhole with rose, carnation, or violet from his garden. He did magnificent work in his profession for the Northern town where he established himself. His presence will be missed, and we shall not soon see his like again. He leaves a widow, for whom the sympathy of the town and the profession must soften the blow of his loss.

EDMUND CAUTLEY, M.D., F.R.C.P.

The death at Bournemouth after many years of retirement from active practice of Edmund Cautley removes one who is hardly more than a name to the younger generation of paediatricians, but was one of the really great ones a generation or two ago. Born in 1864 at Morley, near Leeds, the son of Henry Cautley of the latter city, he had also, if memory serves, some territorial connexion with the East Riding as well as the West. He was educated at Charterhouse, King's College, Cambridge, and St. Bartholomew's Hospital, where he was house-surgeon, house-physician, and casualty physician. For many years he was on the staff at the Metropolitan Hospital, but it was at the Belgrave Hospital for Children that he made and worthily sustained his great reputation. To the Metropolitan Hospital he returned for war service in 1914-18, and was also consultant to a hospital for officers. His high-water mark was reached in 1910, when his *Diseases of Infants and Children* was published and received immediate recognition as the best textbook by an English author on that subject. It is not too much to say that this position was maintained for fifteen or twenty years, and that Cautley's name will be kept green on that account for many years to come. Dr. Eric Pritchard, who recently predeceased him, was an ardent admirer of this textbook, which he often extolled to fellow paediatricians. To call Cautley one of the old school of physicians would be no misnomer provided it is understood that this implies his careful attention to every possible aspect of his patient's condition, every refinement both of diagnosis and of treatment, and a high standard of professional honour and dignity. Courteous and straightforward in dealing with parents, he never failed to capture the confidence and affection of his child patients—he had what is called "a way with" them. He joined the British Medical Association in 1891 and remained a member until his death: he was vice-president in 1907, and president in 1923, of the Section of Diseases of Children, and had also been president of the Harveian Society. He leaves a widow.

A colleague writes:

Edmund Cautley's fame will surely rest most securely on his wonderful textbook, for many years the constant help of both paediatricians and general practitioners alike. One well-known consultant told me that he kept a copy permanently in his motor car, to which he could (and did) refer as he drove from one patient's house to another. Cautley himself was known ruefully to say that he lost a lot of consulting practice which should have been his because he had taught his contemporaries (in his textbook) to get along quite well without him. There may have been an element of truth in this, for he was just a little brusque and taciturn in his human contacts occasionally: this may have been due to his Yorkshire upbringing, of which he was very proud. In later years he was a veteran frequenter of the bridge room at the Savile Club where his methods were well known to his fellow members, even if occasionally rather trying through his tendency to procrastination. After the cards had been dealt he would sometimes remain lost in a reverie, without picking up his hand. If an impatient opponent tried to arouse him by announcing a bid, Edmund would start to feel in his pockets, first for pipe, then for tobacco; loading his pipe with the utmost deliberation, he would then hunt for matches until someone passed him the club's supply, when he would expend half a dozen or so before he got his pipe going to his satisfaction. After all this he would take up his cards and sort them with maddening slowness. I never made out whether this was done to rebuke a too eager player or purely through absent-mindedness; it was a foible which never diminished either the respect or the affection of his fellow members.

HENRY HAVELOCK CHOWN, professor emeritus of surgery and former dean of Manitoba Medical College, died at his home in Winnipeg on Oct. 12, at the age of 85. Born in Kingston, Ontario, he was educated at Victoria College and Queen's University. He began practice in Winnipeg in 1880, and then did postgraduate work in London, and returned to Winnipeg in 1883. From 1883 to 1918 he was connected with Manitoba Medical College, first as a teacher of anatomy, then of surgery, and lastly as dean from 1901 to 1917, retiring as professor of surgery. It was largely under his wise guidance that the college became in 1917 the Faculty of Medicine of the University of Manitoba. He was a member of the first Board of Governors of the University. For thirty-two years he served on the honorary attending staff of the Winnipeg General Hospital. On retiring from active practice he became medical referee of the Great West Life Assurance Company, and held that position until his death. In his later life he travelled extensively, preferably by air, in China, Japan, Egypt, India, New Zealand, Australia, South Africa, Bermuda, and California. In 1901 Queen's University, Kingston, granted him an honorary doctorate of laws. He took an active interest in the Canadian Medical Association and was president in 1901. It would be difficult to exaggerate the contribution made by Dr. Chown to the cause of medical education in the Canadian West.

We regret to announce the death of Dr. G. D. RANKIN at Cairo on Oct. 18. He was born in County Donegal, where his father was in practice, and studied medicine at Trinity College, Dublin, taking his M.B., B.Ch., B.A.O. in 19[illegible]

Dr. Rankin joined the Sudan Medical Service in 1927, and served in Kordofan, Blue Nile, and Northern Provinces, and as a Kaimakan in the Medical Corps, Sudan Defence Force. He received the Fourth Order of the Nile in 1941. He will be remembered by all with whom he came into contact for his unfailing good nature, sound judgment, and the attention he so willingly gave to every aspect of his work. His patients will recall him as a painstaking and sympathetic doctor in whom they could at all times trust. He was exceptionally well fitted to the needs of the country at the present time, and his death will be most widely and deeply felt. Dr. Rankin during his service did much to further the progress of medical work in the Sudan. His sympathy and human virtues endeared him to all of every nationality who came for his help, and he will long be remembered with respect and affection in all parts of the Sudan.

The funeral took place at his farm, Amajuba, Mount Prospect, Newcastle District, Natal, on Sept. 16 of Dr. JOHN EDWARD BRISCOE, D.S.O., *M.C.* He was born on March 29, 1866, at Austwick, Yorkshire, and was educated at Giggleswick School, and qualified M.R.C.S., L.R.C.P. from the Leeds Medical School. He went to South Africa in 1898 and practised in Charlestown and Volksrust Districts, Natal, until he retired in 1926 to his farm near Majuba. Dr. Briscoe took part in the Boer War, the Zulu Rebellion, the campaign in German South West Africa, where he gained the *M.C.*, and in German West Africa, where he was twice wounded and was awarded the D.S.O. for gallantry in the field. In 1917–18 he served in France, where he was present at the death of his only son, who served with the R.F.C. in 1914–18. He is survived by his daughter, Capt. Hylda Briscoe, S.A.M.C., and two grandsons.

Dr. JOHN FREDERICK HALLS DALLY, formerly physician to the Mount Vernon Hospital when it was a chest hospital in Hampstead, and senior physician to the St. Marylebone and Western General Dispensary, died at his house in Harley Street on Nov. 4. He was educated at Wolverhampton School, St. John's College, Cambridge, and St. Bartholomew's Hospital, taking the Conjoint diplomas in 1901 and the M.A., M.B., M.Ch. degrees at Cambridge in 1903. He proceeded M.D. in 1907, and obtained the M.R.C.P. two years later. Before settling in practice he held a number of resident posts, including that of medical superintendent of the Royal National Hospital for Consumption, Ventnor. He was assistant physician to the National Hospital for Diseases of the Heart from 1909 to 1913, and then for three years consulting tuberculosis officer for the borough of Hampstead, and after the last war he served as chairman of a special neurological board of the Ministry of Pensions. Dr. Halls Dally took an active part in the work of several medical societies in London; he had been president of the West London Medico-Chirurgical Society and edited its journal. He made a particular study of arterial pressure in man, and wrote on this and other subjects in various medical journals. His book on *High Blood Pressure and its Management* reached a third edition in 1934, and he published in 1928 *Low Blood Pressure: Its Causes and Significance;* he also contributed the section on those subjects to the *British Encyclopaedia of Medical Practice.*

Dr. SCOTT PURVES died suddenly at Alnwick on Nov. 18 in his 83rd year. He studied medicine at Edinburgh University, graduating M.B., C.M. in 1883, and he obtained his M.D. in 1887. He went to the Alnwick Infirmary as house-surgeon in 1885 and was closely associated with that institution for a period of nearly 60 years. The welfare of the Alnwick Infirmary was his chief concern, and no one did more than he to further its interests. He was a life-long member of the British Medical Association (past chairman of the North Northumberland Division), a member of the Northumberland Insurance Committee, and a member of the local Medical War Emergency Committee. He was a conscientious and painstaking practitioner and inspired patients with confidence and assurance. To young and old he was a dearly loved friend as well as physician, and his passing leaves a gap which cannot be filled. He is survived by his widow.

Dr. JULIUS LÖWY, honorary chairman of the Czechoslovak Medical Association in Great Britain, and professor of occupational diseases and industrial hygiene at the University of Prague, died in London on Nov. 15 after a short illness, aged 59. After taking his M.D.Prague in 1909 Löwy continued postgraduate training at St. Bartholomew's Hospital. In 1917 he was appointed lecturer at Prague University. Later he specialized in occupational diseases and industrial hygiene, publishing nearly 300 papers on the subject, including a volume entitled *The Clinic for Occupational Diseases.* He was expert adviser to a number of departments of the Czechoslovak Government, a member of the Council of Social Insurance, of the State Council of Health, and representative of Czechoslovakia to the Section of Social Medicine of the International Labour Office in Geneva. An anti-Nazi, Löwy left Czechoslovakia for London after Munich, and became co-founder of the Czechoslovak Medical Association in Great Britain and of the Health Charter Movement. As a member of several committees of the Czechoslovak Government he helped to deal with problems of medical relief and health reconstruction. His modesty and devotion to his work and to his country gained him a large number of friends in Great Britain.

Dr. S. B. KULKARNI, assistant medical officer, Zanzibar Government Service, died on May 3, 1944, after a short illness. He received his medical education at Sir Gocaldas Sunderdas Medical College, Bombay, and qualified in 1930. He was appointed to the post in Zanzibar in 1931. Keenly interested in his profession, he endeared himself not only to his colleagues and patients, but to all who knew him, by his charm and kindness. He joined the British Medical Association in 1936 and was honorary secretary of the Zanzibar Branch at the time of his death.

The Services

Col. J. S. K. Boyd, O.B.E., and Major-Gen. T. O. Thompson, C.B.E., late R.A.M.C., have been appointed Honorary Physicians to the King in succession to Major-Gens. Sir P. S. Tomlinson, K.B.E., C.B., D.S.O., and J. A. Manifold, C.B., D.S.O., late R.A.M.C.(ret.), respectively, and Major-Gen. W. C. Hartgill, O.B.E., M.C., late R.A.M.C., has been appointed Honorary Surgeon to the King in succession to Major-Gen. O. W. McSheehy, C.B., D.S.O., O.B.E., late R.A.M.C.(ret.)

Col. (local Major-Gen.) J. Walker, C.B.E., M.C., late R.A.M.C., to be a D.D.M.S., and to be Acting Major-Gen.

Col. (Temp. Brig.) (Acting Major-Gen.) E. Phillips, C.B.E., D.S.O., M.C., late R.A.M.C., to be a D.M.S., and to be Major-Gen.

Capts. J. Cowan, G. B. Hirst, E. W. Moore, D. W. Moynagh, Lieuts. W. A. Smurthwaite and H. Thompson, R.A.M.C., and Lieut. M. Nagi, I.A.M.C., have been awarded the M.C. in recognition of gallant and distinguished services in Italy.

Temp. Surg. Lieut. P. N. Holmes, R.N.V.R., has been mentioned in dispatches for good services to survivors from a merchant vessel which was sunk by enemy action.

CASUALTIES IN THE MEDICAL SERVICES

Killed.—War Subs. Capt. Frederick Murray Wainman, R.A.M.C.

Killed in action in Burma.—Capt. Allan Dalgleish Gould, R.A.M.C.

Accidentally killed on active service.—Major Philip McLean Gunn, R.A.M.C.

Wounded.—Lieut. W. N. Coombes, War Subs. Capts. A. N. MacPhail, I. Morris, and A. B. Unwin, R.A.M.C.

Missing, presumed killed.—Surg. Lieut. James Robertson, R.N.

Previously reported missing, now known to be a prisoner of war.—Capt. J. H. Keesey, R.A.M.C.

DEATHS IN THE SERVICES

Major-Gen. Sir MENUS WILLIAM O'KEEFFE, K.C.M.G., C.B., M.D., Colonel Commandant of the R.A.M.C., died on Nov. 29 at Camberley at the advanced age of 85. His father was a medical man and he was born at Mount Keeffe, Newmarket, County Cork, in 1859. He was educated privately and at Queen's University, Ireland, where he took the L.M. in 1880 and the M.D.R.U.I. and the M.Ch. In 1881 he joined the A.M.S., as it then was, in time to see active service in the Egyptian campaign of 1882, and was present at the battle of Tel-el-Kebir. He next saw service on the North-West Frontier of India in the Tirah Expeditionary Force in 1897–8 and with the Mohmand campaign in 1908. In 1910 he was promoted colonel, and from 1911 to 1914 held the important post of Inspector of Medical Services, War Office, after having served for five years at the Royal Herbert Hospital, Woolwich. He was thus marked out for responsible duties during the war of 1914–18, when he went to France with the Expeditionary Force and served throughout as Deputy Director of Medical Services, Rawlinson's Fourth Army, and was mentioned in dispatches seven times. Here he did fine work in the evacuation and treatment of the sick and wounded throughout the battle of the Somme, and the improvements he made in the speedy collection and evacuation of the wounded saved many valuable lives. For these conspicuous services he was awarded the C.B. in 1915 and the K.C.M.G. in 1918. He also received the

Legion of Honour of France and the Russian Order of St. Anne with Swords, 1st Class. He was promoted to major-general in 1915 and retired in 1919. In 1927–9 his very successful career was crowned by his appointment as Colonel Commandant, Royal Army Medical Corps, in succession to Lieut.-Gen. Sir Alfred Keogh. He was associated with Belfast through his marriage with Janetta Canning, daughter of W. Savage Baird of Avonmore, Belfast, who together with a daughter survives him. He lost his only son in the last war.

Lieut.-Col. CHARLES HENRY JAMES, C.I.E., I.M.S.(ret.), died on Oct. 27 at Reigate at the age of 81. He was educated at Cranleigh and St. Thomas's Hospital, London, and qualified with the M.R.C.S., L.R.C.P. in 1887. After holding resident appointments at St. Thomas's and the General Lying-in Hospitals up to 1890, he entered the Indian Medical Service in January, 1891. In 1894 he joined the civil medical department as Deputy Sanitary Commissioner, Punjab, shortly before the plague pandemic reached India and attained its height in the Punjab during his tenure of that post up to 1900. His good work during this period of stress was rewarded with the Kaisar-i-Hind Medal of the First Class. In 1897 he published valuable reports on plague in Bombay and in the Punjab, in addition to articles in medical journals which made him an authority on the subject. He had previously published a *Manual for Vaccinators in the Punjab* in 1895. From 1903 to 1912 he held the important Foreign Office appointment as Medical Adviser to Patiala State, Punjab, and he showed his versatility by obtaining the F.R.C.S.Eng. while on leave home in 1908. In 1912–16 he held the coveted appointment of Civil Surgeon, Simla, where he established his reputation as an able surgeon and practitioner of medicine. This led to his selection for the appointment of Civil Surgeon and Chief Medical Officer of the Delhi Province in 1917, which he held until his retirement under the age rules in 1921. He was awarded the C.I.E. in 1912 for long and distinguished service. Col. James thus had a varied and highly successful career and was a popular and highly esteemed officer. He was unmarried, and after his retirement lived at Reigate, where he was chairman of that B.M.A. Division in 1929–31 and president of the Surrey Branch during the two following years. He attended the Annual Meetings of the Association as representative of his Division from 1934 to 1938, having been a member ever since 1891. He will be missed by his many friends.

We regret that through inadvertence there was an omission in the obituary notice on Major-Gen. GODFREY TATE, C.I.E., I.M.S., published on Sept. 2 (p. 324). General Tate was appointed Honorary Surgeon to the King in 1927, a year after his appointment as Honorary Surgeon to the Viceroy of India.

Universities and Colleges

UNIVERSITY OF WALES

WELSH NATIONAL SCHOOL OF MEDICINE

The following have satisfied the examiners at the examinations indicated:

M.B., B.CH.—*Pharmacology:* D. R. Bowen H. E. F. Davies, Janet Dean-Jones, *G. S. Foster, Gwenllian M. Griffith, T. R. Hunt, Beryl H. Jones, Margaret I. Morgan. *Surgery:* D. Anthony, D. H. Davies, M. Ll. Edwards, J. H. Edworthy, A. W. R. Jenkins, T. Ll. Jones, Margaret Owen, J. Ll. J. Phillips, Olwen V. Rees, Amelia Rowles, W. H. Williams.

* With distinction.

UNIVERSITY OF DUBLIN

The following candidates in the School of Physic, Trinity College, have been approved at the examinations indicated:

M.D.—Violet K. St. G. Breakey, B. E. R. Solomons.

M.B., B.CH., B.A.O.—A. Aitken, C. Boyle, I. E. P. Cope, M. Leon, Patricia M. Miley, J. B. C. Nabney, H. G. Nelson, Eithne J. O'Riordan, Mary M. J. Roberts, J. C. H. Shaw, A. R. A. Small, C. P. Williamson, W. J. Wilson.

Licence in Medicine, Surgery, and Obstetric Science.—D. B. de Courcy Wheeler.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

At the annual meeting held on Nov. 30 Dr. A. Fergus Hewat was re-elected President, and Drs. L. H. F. Thatcher, A. Ninian Bruce, D. M. Lyon, W. D. D. Small, C.B.E., W. A. Alexander, and D. K. Henderson were elected to form the Council for the ensuing year. Dr. D. M. Lyon was nominated Vice-President.

FACULTY OF RADIOLOGISTS

The following have been successful at the recent examination for the Fellowship of the Faculty:

Radiodiagnosis: F. R. Berridge, M.B., B.Ch., D.M.R.

Radiotherapy: M. Lederman, M.B., B.S., D.M.R.E., R. Morrison, M.B., Ch.B., D.M.R., J. Walter, B.M., B.Ch., D.M.R.E.

Medical Notes in Parliament

The N.H.S. and the Government Programme

During the debate on the Address in reply to the King's Speech in the House of Commons on Dec. 5 Mr. ATTLEE said the Government could not fix a date at which the war with Germany would end, and that brought in an element of uncertainty in the implementation of the programme outlined in the King's Speech. The Government's intention was to make the greatest progress this Session with what they could. There were the essential annual Bills, which must be passed, but it was impossible to give an exact time-table for the social insurance proposals. He hoped that the Bill for family allowances would be presented very soon and that the Industrial Injury Bill would not be very long behind it. He could not say when the other measures would be presented, because an immense amount of work had to be done on them, but the Prime Minister was using the greatest vigour to get these Bills forward and get the drafting completed.

Dr. HADEN GUEST asked if Mr. Attlee meant that a lot of preparation was necessary to be applied to the Bill for a comprehensive medical service. The Ministry of Health had been working on it for about three years. Surely they had arrived at some definite definition.

Mr. ATTLEE said that these Bills had been the subject of discussions in the House, but it was quite impossible to begin drafting a Bill before they had got a considerable way towards agreement.

Mr. KENNETH LINDSAY said he noticed that there was a dispute among the doctors.

Mr. ATTLEE: Quite. We have put forward our proposals, but there are other measures apart from these, and members must not think that these things can be brushed aside. He added that whatever the Government after the election, he hoped there would be co-operation among all parties, so that these great measures, if not put through before the election, could still reach the Statute Book. With regard to all the measures mentioned in the King's Speech, the Government would do their utmost to pass them into law.

Dr. HADEN GUEST said he hoped that in this Session they would lay the foundations of social security, and specially of family and health security. During the war the medical service had been so excellent because of its singleness of purpose. A comprehensive medical service for the nation should have the same singleness of purpose. To attain this the whole of our medical forces must be mobilized to serve the nation. There must be a comprehensive hospital service, pooling the voluntary and publicly controlled and owned hospitals together, which would guarantee to every sick person who required it a bed where he could be treated, without question of payment, as long as was necessary. We had always been short of beds for the treatment of tuberculosis, but if we threw into the pool of hospital accommodation all the additional beds which had been built for emergency they could cope with that. The hospitals built by the Government in this country for the American Forces should also be used. He wanted to secure that the comprehensive medical service was ready, so that when the young medical men came back from the war there would be an organization into which they could move at once, without having to go through the appalling business of the private buying of practices, with mortgages held over a long term of years. That would relieve the younger generation of a heavy and crippling burden and would go a long way toward the total abolition of the buying and selling of practices. This Session ought not to pass without carrying out the promises which had been made to the whole people. There were no irreconcilable differences on these matters inside the medical profession, and no administrative problems which were insuperable.

The debate was adjourned.

Indian Health Survey

On Dec. 7 Mr. GALLACHER asked the Secretary of State for India what were the membership and function of the Indian Health Survey and Development Committee, whose chairman was Sir Joseph Bhore, and how soon this committee was expected to report.

Mr. AMERY replied that the committee consisted of members drawn from all parts of India and included persons with practical experience of all aspects of the health problem. Its duty was to survey the present position in regard to health conditions and health organization in British India and to make recommendations for future development. It was holding its final meetings this month and would report shortly.

Mr. Amery circulated a list of the members of the committee, the medical members of which are: Rai Bahadur Dr. A. C. Banerjea, Director of Public Health, United Provinces; K.B. Dr. Abdul Hamid Butt, Director of Public Health, Punjab; Dr. R. B. Chandrachud, Chief Medical Officer, Baroda State; Lieut.-Col. E. Cotter, Public Health Commissioner with the Government of India; Dr. D. Y. B. Dadhaboy, ex-President of the All-India Association of Medical Women, Bombay; Dr. J. B. Grant, Director, All-India Institute of Hygiene and Public Health, Calcutta; Dr. Mohammad Abdul Hamid, Professor of Pathology, Lucknow University; Col. J. B. Hance, Director-General, Indian Medical Service; Sir Henry Holland, C.M.S. Hospital, Quetta; Dr. H. M. Lazarus, Women's Medical Service; Diwan Bahadur Dr. A. Lakshmanaswami Mudaliar, Vice-Chancellor, University of Madras; Dr. U. B. Narayanrao, President, All-India Medical Licentiates Association; Dr. B. Vishwa Nath, Member of the Medical Council of India; Major-Gen. W. C. Paton, Surgeon-General, Bengal; Dr. B. C. Roy, President, Medical Council of India; Lieut.-Col. B. Z. Shah, I.M.S.(ret.), Superintendent, Mental Hospital, Poona, formerly Director of Medical Services, Sind; Dr. Hemandas R. Wadhwani. Secretary of the Committee, Rao Bahadur Dr. K. C. K. E. Raja, I.M.S.

Mr. Amery also told Mr. Gallacher on the same day that the Director-General of the Indian Medical Service had just completed a visit to this country and the United States of America, in which he explored means of promoting medical research in India and liaison between Indian research workers and those elsewhere. The Government of India looked forward to receiving recommendations on these subjects from the Health Survey and Development Committee under Sir Joseph Bhore (of which the Director-General was a member) and had already before them valuable proposals made by the honourable Member for Cambridge University. The Famine Inquiry Commission under Sir John Woodhead had within its scope the effects of the Bengal famine in respect of malnutrition and deficiency diseases; Dr. Aykroyd, Director of the Nutritional Laboratory at Coonoor, was a member of the Commission.

Refresher Courses for Service M.O.s

Sir E. Graham-Little was informed by Mr. WILLINK on Dec. 6 that proposals have been under discussion with representatives of universities and others with the object of enabling medical officers released from the Forces who had not, before serving, become established in practice to obtain three or six months' clinical experience in hospitals under expert guidance before going into practice, and also of providing short refresher courses for those who were previously general practitioners. It is intended to circulate particulars of the scheme, as soon as it has been settled, among serving medical officers.

Domestic Staff of Hospitals

In answer to Wing Cmdr. James, Mr. ERNEST BEVIN said on Dec. 7 that no women domestic workers had been withdrawn from hospitals. Throughout the war hospital domestic work had been regarded as work of national importance carrying the appropriate priority. Following the report in November, 1943, of the Hetherington Committee special priority was accorded to domestic needs of hospitals. Between the granting of the special priority and Nov. 8, 1944, 38,000 women and 3,000 men had been placed as domestic workers in hospitals, sanatoria, mental institutions, and nursing homes. Wastage had continued to be heavy, with the result that, despite this large number of placings, the number of domestic workers employed in hospitals during the period January to September, 1944, increased by fewer than 5,000. The special priority for hospital domestic work was being continued, and his Department would continue to make every effort to fill outstanding vacancies.

Ministry's Pamphlet on Smallpox

Mr. ALFRED EDWARDS inquired on Dec. 8 why "an out-of-date pamphlet with regard to the diagnosis of smallpox" had been circulated by the Ministry of Health. He asserted that this pamphlet did not solve difficulties which had recently arisen in regard to the diagnosis of smallpox. Mr. WILLINK replied that the pamphlet was written by an authoritative and highly competent author. Its value to those concerned in the diagnosis of smallpox was as great to-day as when it was written. He had set up a panel of consultants with special experience of smallpox whose services were available to practitioners when required.

Relief for Channel Islands

In the House of Commons on Dec. 12 Mr. HERBERT MORRISON announced that the British Government had decided to supplement the rations of the civil population of the Channel Islands by sending medicine, soap, and food parcels on the basis of those supplied to prisoners of war. The German Government had now agreed to this procedure, and had granted a safe conduct to the ship which would convey the supplies to the islands. Final arrangements for the departure of the ship had not yet been completed, but the Government had every reason to believe she would be ready to sail within the next few days. Sir RALPH GLYN asked if a representative of the Red Cross would accompany the ship to see what arrangements would be necessary in future for medical stores. Mr. MORRISON said he would take note of that point, but he did not want to go further into detail at the moment. He had reasonable belief that the satisfactory distribution of the stores would be taken care of.

Inspection of Japanese P.O.W. Camps

On Dec. 12 Mr. R. MORRISON asked the Secretary of State for War whether the Japanese Government have recently indicated any willingness to widen the scope of inspection of prisoners' camps by the International Red Cross.

Sir JAMES GRIGG replied: The Swiss Minister at Tokio was informed, in a discussion with the Japanese Minister for Foreign Affairs at the beginning of November, that he had secured permission for camps in occupied territory to be visited by representatives of the International Red Cross Committee. The Japanese Minister for Foreign Affairs agreed to confirm this statement in writing. From a later telegram it is learned that the Japanese Foreign Office had written that the question was still being examined, but that it was thought that authorization might be given to visit camps in Singapore and Siam.

Milk for Expectant Mothers after the War.—On Nov. 14 Major MARKHAM asked the Minister of Food whether, in connexion with social insurance, it proposed to continue in the post-war years the existing arrangements by which pregnant women, nursing mothers, and children up to school age could obtain essential supplies of milk and vitamins, which had contributed so effectively to their maintaining their health during the war. Mr. MABANE said no change was contemplated in the welfare foods scheme as at present administered so long as food shortages continued and consumption of liquid milk by the general public was restricted. Consideration was being given to the best means of ensuring that the special needs of children and pregnant and nursing mothers would be met when liquid milk and other essential foods were again in ample supply.

Supply of Teats for Babies.—On Nov. 7 Mrs. TATE asked the President of the Board of Trade when the promised increased supplies of teats were going to be available; and whether he was aware of the serious situation in which mothers and children were placed because of the continued shortage.

Mr. DALTON said that the weekly production of teats had now been doubled compared with the average for July and August, and was still increasing. Larger supplies were now reaching the shops. He had taken steps, in consultation with the manufacturers and distributors, to ensure that supplies were evenly distributed over the country.

Proposed New Chest Hospital at Swansea.—On Nov. 14 Sir WM. JENKINS asked the Minister of Health if he was aware of the appeal made by the King Edward VII Welsh National Memorial Association to be supplied with a modern chest hospital at Swansea, covering the requirements of thoracic surgery to serve the whole of South-West Wales; and what action he was taking to meet this overdue need. Mr. WILLINK replied that he was aware that the King Edward VII Welsh National Memorial Association had under consideration the question of a new hospital at Swansea. He would be prepared to consider, in the light of prevailing conditions, any proposals which might be submitted to him by the association.

Hospital Accommodation for Repatriated P.O.W.—On Nov. 28 Lieut.-Col. THORNTON-KEMSLEY asked the Secretary of State for Scotland if he was aware that repatriated British prisoners of war who arrived in England this autumn had to be detained in hospitals in the South for many weeks because suitable hospital accommodation was not available in Scotland, and how he proposed to ensure that this would not happen in future cases. Mr. JOHNSTON said that there had not been any general difficulty about transferring to Scottish hospitals repatriated prisoners whose homes were in Scotland, though he understood that four repatriated patients suffering from tuberculosis and sent to hospitals in England could not be quickly transferred because there was a waiting-list for admission to hospital of tuberculous patients in Scotland. The particular cases which the hon. Member had in mind had now been transferred to Scotland.

High-frequency Apparatus.—On Dec. 5 Mr. R. MORRISON asked the Postmaster-General if he was now able to release medical radio apparatus surrendered by private persons at the outbreak of war and to permit its use by medical men. Capt. CROOKSHANK said that since July, 1942, as was announced in the Press at the time, owners of high-frequency apparatus taken into Post Office custody might apply to his Department for a permit to have it returned. It was a condition of granting a permit that a suitable screen and filter must be installed for use with the apparatus so as to limit radiation.

Notes in Brief

The rate of admissions to hospital for dysentery and kindred diseases from the British Army in India was less than 7½% of troops serving in 1943–4, compared with the pre-war annual rate of 5½%.

Medical News

B.M.A. House will be closed for the Christmas holiday from 4 p.m. on Friday, Dec. 22, until 9 a.m. on Wednesday, Dec. 27.

The Goulstonian Lectures will be delivered before the Royal College of Physicians on Tuesday and Thursday, Jan. 16 and 18, at 2.30 p.m. by Lieut.-Col. C. H. Stuart-Harris. Subject: Influenza Epidemics and the Influenza Viruses. Mr. Desmond MacCarthy's Lloyd-Roberts Lecture on psychology in literature will be delivered at the College on Tuesday, Jan. 30, at 3 o'clock.

At the next meeting of the History of Medicine Section of the Royal Society of Medicine on Wednesday, Jan. 3, at 2.30 o'clock, Dr. E. Weil will read a paper on "The Formation of the Harvey Cushing Collection of Books and Manuscripts."

The Lord President of the Council has appointed Sir Robert Robinson, F.R.S., to be chairman of the Water Pollution Research Board of the Department of Scientific and Industrial Research, in succession to the late Mr. H. C. Whitehead, M.Inst.C.E.

The Harveian Society of London announces that the Buckston Brown Prize, 1944, for an essay on the uses and abuse of sulphonamides, has been awarded to Prof. C. A. Frazer, M.D., of Birmingham University.

The University of Melbourne announces that Dr. S. Dattilo Rubbo, hitherto senior lecturer in bacteriology, has been appointed professor of bacteriology in the University.

Medical officers of health are asked to notify the Ministry of Health of any men in their areas born in 1927 who have a history of tuberculosis. The information should be given on Form T.147 as before.

The Langley Memorial Prize of £21, which is open to competition among officers of the Colonial Medical Service who are serving or have served in West Africa, will be awarded next year for the best paper on a topic falling within one of the following fields: (*a*) Tropical medicine or surgery. (*b*) Tropical hygiene and sanitation. (*c*) Tropical entomology and parasitology. Special consideration will be given to original work. Papers, which may consist of either published or unpublished work, should be delivered to the secretary, London School of Hygiene and Tropical Medicine, Gower Street, London, W.C.1, not later than Oct. 1, 1945.

EPIDEMIOLOGICAL NOTES

Discussion of Table

In *England and Wales* notifications of measles again mounted steeply, by 673; the total for whooping-cough was 86 higher than last week, and diphtheria 21. The only disease for which a fall of any size was recorded was scarlet fever, with 71 fewer cases than last week.

The fluctuations in the local returns of diphtheria were small; Lancashire had 19 fewer cases than last week, and Yorks North Riding 13 more. There were 38 more cases of pneumonia in Durham than last week. Whooping-cough was prevalent in the north, Northumberland's total rising by 26. Measles is generally prevalent, but the rate of increase is still greatest in the north. Lancashire had 232 more cases than last week, Cheshire 92, Middlesex 88, Durham 87, Northumberland 66, Worcester 61; Staffordshire and Warwickshire had respectively 88 and 49 fewer cases.

The notifications of dysentery were 381, an increase of 1. No further cases were reported from the large outbreak in Yorks West Riding, Wortley R.D., where there were 130 cases last week, but 26 cases were notified from six administrative districts in the county. Fresh outbreaks were reported from Wiltshire, Warminster U.D. 42; Oxford, Bullingdon R.D. 15; Suffolk, Ipswich C.B. 11; increases were recorded in Essex from 9 to 47 (Rochford R.D. 37), and Hertfordshire from 8 to 30 (Watford M.B. 24). Other large centres of infection were Lancashire 33, London 29, Surrey 26, Glamorganshire 23.

In *Scotland* there was a fall in the incidence of infectious diseases; there were 128 fewer cases of measles than last week, 36 of diphtheria, and 30 of acute primary pneumonia.

In *Eire* diphtheria notifications fell by 11, while a rise of 17 was recorded for measles, and of 15 for scarlet fever.

In *Northern Ireland* the total for measles was 14 higher than last week; 259 cases occurred in Belfast C.B., and 14 in Lisburn U.D.

Week Ending December 9

The returns of infectious diseases in England and Wales during the week included: scarlet fever 2,005, whooping-cough 1,465, diphtheria 613, measles 8,906, acute pneumonia 715, cerebrospinal fever 44, dysentery 254, typhoid 2, paratyphoid 0, acute poliomyelitis 5.

No. 48

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended Dec. 2.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for: (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland.

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for: (a) The 126 great towns in England and Wales (including London). (b) London (administrative county). (c) The 15 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns in Northern Ireland.

A dash — denotes no cases; a blank space denotes disease not notifiable or no return available.

Disease	1944 (a)	(b)	(c)	(d)	(e)	1943 (Corresponding Week) (a)	(b)	(c)	(d)	(e)
Cerebrospinal fever	39	2	25	1	—	60	5	21	—	2
Deaths		—	2				1	2		
Diphtheria	637	19	173	122	20	610	29	161	101	30
Deaths	13	—	6	—	—	21	1	3	2	1
Dysentery	381	29	85	—	2	144	31	58	—	—
Deaths				—	—				—	—
Encephalitis lethargica, acute	1	—	—	—	—	3	—	2	—	—
Deaths		—					1			
Erysipelas			56	11	2			56	8	2
Deaths		—					—			
Infective enteritis or diarrhoea under 2 years				17					26	
Deaths	31	5	8	19	1	46	5	8	11	5
Measles*	7,810	84	297	36	†273	451	32	66	49	1
Deaths	10	—	—	—	—	1	—	—	—	—
Ophthalmia neonatorum	64	4	15	1	—	52	2	16	—	—
Deaths										
Paratyphoid fever	3	—	2 (B)	—	—	2	—	2	—	—
Deaths	—	—	—	—	—	—	—	—	—	—
Pneumonia, influenzal‡	761	27	10	3	4	2,291	204	84	5	6
Deaths (from influenza)	27	1	5	—	—	709	72	50	4	3
Pneumonia, primary			284	16				413	28	
Deaths		—		13	13		161		12	15
Polio-encephalitis, acute	—	—				1	—			
Deaths		—					—			
Poliomyelitis, acute	10	—	3	1	—	4	—	—	2	—
Deaths		—					—			
Puerperal fever		5	12		—		2	10		—
Deaths							1			
Puerperal pyrexia§	134	9	14	1	2	136	7	18	—	—
Deaths		—					—			
Relapsing fever	—	—			—	—	—			—
Deaths										
Scarlet fever	2,279	71	343	47	71	2,694	219	330	27	10
Deaths	1	—	—	—	—	5	1	—	—	—
Small-pox	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Typhoid fever	7	1	2	10	1	8	—	2	7	—
Deaths	—	—	—	—	—	1	—	—	1	1
Typhus fever	—	—	—	—	—	—	—	—	—	—
Deaths				—	—				—	—
Whooping-cough*	1,474	49	130	33	9	1,757	133	205	26	3
Deaths	9	1	4	2	1	16	2	1	2	—
Deaths (0–1 year)	345	38	82	43	17	425	54	83	40	2
Infant mortality rate (per 1,000 live births)										
Deaths (excluding stillbirths)	4,743	782	636	220	135	8,081	1,352	860	246	15
Annual death rate (per 1,000 persons living)			14·6	14·3	¶			19·4	16·2	¶
Live births	6,685	611	853	322	255	5,731	663	838	369	22
Annual rate per 1,000 persons living			17·3	20·9	¶			17·1	24·3	¶
Stillbirths	220	18	29			169	23	35		
Rate per 1,000 total births (including stillborn)			33					40		

* Measles and whooping-cough are not notifiable in Scotland, and the returns are therefore an approximation only.

† Five cases of mixed infection, measles and whooping-cough.

‡ Includes primary form for England and Wales, London (administrative county), and Northern Ireland.

§ Includes puerperal fever for England and Wales and Eire.

¶ Owing to evacuation schemes and other movements of population, birth and death rates for Northern Ireand are no longer available.

Letters, Notes, and Answers

All communications with regard to editorial business should be addressed to THE EDITOR, BRITISH MEDICAL JOURNAL, B.M.A. HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1. TELEPHONE: EUSTON 2111. TELEGRAMS: *Aitiology Westcent, London.* ORIGINAL ARTICLES AND LETTERS forwarded for publication are understood to be offered to the *British Medical Journal* alone unless the contrary be stated.

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ANY QUESTIONS?

Displacement Treatment of Sinusitis

Q.—*I once saw a demonstration of the ephedrine displacement technique for a heavy cold and sinusitis. Can you tell me the easiest method of carrying out this procedure? What are the indications for its use, and how efficient is it?*

A.—The introduction of fluid into the nose and the production of suction can both be carried out by a simple hand apparatus. The success of this method depends upon a number of technical details, too lengthy for inclusion here. A modern textbook or Proetz's original articles should be consulted. As a method of treatment, displacement acts by diluting masses of secretion too heavy for the cilia to move. Such cases occur mainly in the subacute stage of sinusitis, where the method is well worthy of trial. If carried out efficiently and applied only to suitable cases, a high percentage of good results can be expected.

Intolerance to Iodides

Q.—*I wish to give iodides to a patient with intermittent claudication who informs me that he is unable to tolerate them. Can iodism be abolished by adding liq. arsenicalis to the mixture?*

A.—The addition of liquor arsenicalis to a mixture of iodide will have no effect in preventing iodism. Arsenic seems to be of some value in preventing the skin manifestation of bromism, but even in this respect is by no means dependable.

Prolonged Use of Mercurial Diuretic

Q.—*A man aged 35, diagnosed as suffering from adhesive pericarditis (Pick's disease), has been treated for 5 years with a mercurial diuretic to reduce the dropsy. Are there ill effects likely to be caused by such prolonged use?*

A.—There has now been sufficient experience to show that mercurial diuretics can be injected once a week for 5 years or more without any harm except the rare occurrence of sensitization to the drug. There has been less experience of the ingestion of these mercurial compounds by mouth, but no ill effects have been reported. The present inquiry does, however, raise one question—that is, Has operative treatment been considered for this patient, for the disease process appears to be relatively static and he might therefore be permanently relieved by surgery?

Relative Infertility

Q.—*A man and wife aged 46 and 41 respectively, after 8 years of married life had a child 10 months ago which, although healthy at birth, died shortly after from infantile diarrhoea. As this is the first successful fertilization in 8 years, and as the wife is 41 and most anxious to have a baby, what could be done to ensure fertilization in a couple whose past experience is not encouraging? The husband, I understand, can achieve only partial erection. Would any treatment be of help to the wife, and would, for example, the taking by her of vitamin E and progesterone heighten a possibly lowered fertility?*

A.—It seems unlikely that the death of the child from infantile diarrhoea had anything to do with the alleged subfertility of the parents, especially as the child was healthy at birth. The fact that the husband can achieve only partial erection and that he was nevertheless able to effect fertilization of an ovum suggests that he is relatively impotent and that the cause of this is psychological. One would like to know whether, in support of this view, coitus occurs only infrequently; if so, attention should be directed to the husband rather than the wife, and in any case an examination of the seminal fluid should be made, as in all cases of sterility or subfertility where the wife is not obviously involved. The suggested treatment of the wife with vitamin E and progesterone is one often applied to subfertility in the female where there is no obvious cause, and perhaps is clinically justified. Nevertheless, the administration of hormones is most successful when specific and based upon definite evidence of their complete absence or of their secretion in subnormal quantities. Confirmation of this possibility in the case of progesterone can be obtained by diagnostic curettage in the latter half of the cycle, and by pregnandiol assay, a procedure which will come into more general use as soon as sufficient technical experience and personnel are available.

An Infant-feeding Problem

Q.—*While breast-feeding my daughter, now aged 5 months, I have taken Ministry of Food orange juice regularly as the infant herself refuses it. For the first few months she had a slight erythematous rash, sometimes becoming pustular, mainly over the area covered by the napkin. The pustules would clear up rapidly on application of a zinc, kaolin, and boric powder. Care is taken over frequent changing of napkins and over rinsing out soap used in washing. When the orange juice was discontinued the rash was absent. When it was recommenced the rash reappeared. No pustules have so far developed. Glucose is added to the orange juice to counteract acidity. The diapers rarely become soiled, as she is "potted" before and after feeds, and are usually only damp with urine. The stools are occasionally slightly frothy. I have experienced no reaction while taking the orange juice during pregnancy (without glucose) or after parturition. The rash seems to be caused by a product of the fruit juice excreted in the urine. Are there any precautions that might be taken?*

A.—It is not quite clear what is meant by the phrase "to counteract acidity," for the net effect of orange juice in metabolism is towards increasing the alkali intake. If what is meant is sourness of the juice, then it may be that in this particular instance some ingredient of the juice is passing out through the mother's milk and causing both the occasional frothy stools and the irritant urine. It is well known that with some nursing mothers their infants may be upset if the maternal diet contains sour fruit, but it is not always the case, nor is it common with orange juice. On the other hand, if what is meant is mild indigestion in the mother, it is recognized that, for reasons which are obscure, indigestion in the nursing mother may be associated with a similar disturbance in the infant. The simplest solution—and the answer to the final question of the query—is to change the source of vitamin C, using some other active fruit juice or purée, or tablets of ascorbic acid. Whatever the term "acidity" is meant to indicate, it is difficult to see how glucose could have any effect upon it.

Stimulating Lactation

Q.—*For every patient who needs to have lactation curtailed there are a dozen whose milk supply needs to be increased. Can this be accomplished at reasonable cost by hormone therapy?*

A.—There is a hormone of the anterior pituitary—prolactin—which is believed to initiate lactation. A commercial preparation of this hormone is available. Kenny and King (*Lancet*, 1939, **2**, 828) claimed good results from the use of this preparation for stimulating lactation and increasing a deficient milk supply. Stewart and Pratt (*Endocrinol.*, 1939, **25**, 347) were unable to confirm these results, and concluded that the preparation was ineffective for stimulating lactation in woman. It seems doubtful whether hormone treatment is likely to benefit cases where milk secretion is deficient.

Four measures for increasing a deficient milk supply can be recommended: first, a large fluid intake, at least six pints daily; secondly, a good diet, and some of the extra fluid can be taken as milk or soup; thirdly, bathing the breasts alternately with very hot and with ice-cold water half an hour before each feed; and, fourthly, massage to the breasts and exercises for the pectoralis major muscles. These last measures undoubtedly act by increasing the blood flow through the mammary tissue. Preparations of cotton-seed oil have also been recommended, but their value is empirical.

Effects on Libido of Certain Operations

Q.—*What are the effects on the libido of (a) oophorectomy, (b) partial salpingectomy, (c) x-ray or radium therapy?*

A.—Although the ovaries, through their production of oestrogen, are primarily responsible for sex drive in female lower animals, the same is not true for women, in whom sex desire and allied emotions are largely governed by mental processes, and the ovaries play a minor part. (*a*) To some extent the effect depends on the age of the patient and whether she is already experienced in physical love. If we can assume the latter, then bilateral oophorectomy does not as a rule reduce libido, providing that coitus is practised regularly and contracture of the vagina, which would cause dyspareunia, is prevented. Unilateral oophorectomy does not have any effect on libido. (*b*) The answer to this is, none. (*c*) *X*-ray therapy and the intra-uterine application of radium, both adversely affect ovarian function, the extent and duration of the effect depending

on age and dosage. Again any reduction in sex desire is absent or minimal.

The above comments apply only to the direct effects of the operations in question, but, in view of the dominant part played by the central nervous system and the woman's outlook, it should be kept in mind that the suppression of ovarian function and the cessation of menstruation may, by a psychological rather than an endocrinological mechanism, result in diminished libido. This is because so many women wrongly believe that a surgical or even a natural menopause inevitably means a loss of interest in sex. If they expect such, then it is likely to occur. If, however, this idea is refuted, and a woman is assured that she can expect to continue a normal sex life, then it is exceptional for a lose of libido to occur. Indeed, there are cases in which sex desire appears to be increased by oophorectomy, but, again, the basis for this is a psychological one. The continuance of menstruation and the absence of climacteric symptoms make it rare for bilateral partial salpingectomy to have psychological effects. Nevertheless it must be conceded that in some women the consciousness of their sterility might affect libido—either increasing it or decreasing it, according to their point of view.

Penicillin and Arsenic

Q.—*In Legge's "Handbook on Industrial Medicine" (1934, p. 80) it is stated that certain moulds, notably Penicillium brevicaude, can split up arsenic compounds in the form of a gas and so cause arsenical poisoning in persons living in rooms the wallpaper of which contains arsenic. Is it possible that a person with arsenic in the body might be adversely affected by penicillin, and if so, should not this question be worked out?*

A.—It is presumably meant that penicillin may conceivably react with an organic arsenical compound administered, for instance, for the treatment of syphilis, and so liberate arsenic in a more toxic form. If so, the short answer to this question is that penicillin and mapharsen have been administered together in the treatment of syphilis (J. E. Moore *et al., J. Amer. med. Ass.*, 1944, **126**, 67) with no untoward effects. In any case it is a far cry from the liberation of volatile arsenic from an inorganic compound by a living penicillium of different species from *P. notatum* to the reaction of penicillin with an organic compound of arsenic. The former effect is presumably due to enzyme action, and it is scarcely conceivable that anything but the living mould could bring it about.

INCOME TAX

Employment of Wife

W. D. inquires how much salary is payable to a wife without her having to pay income tax thereon?

*** £89. A wife receiving that amount for 1944–5 is entitled to £9 earned income relief and £80 wife's special earned income allowance, leaving a net liability of £89−£89; i.e., nil.

Share of Fees Payable to Executrix

R. R. Is the half-share payable to the executrix for twelve months from the date of death liable to tax?

*** Yes. It is part of the total profits assessable on the firm. It does not carry earned income relief as it is not earned immediately from the carrying on by an active partner of his share of the professional work.

Employment: Home Expenses

J. C. has been working as a whole-time assistant. She has a child aged 2 years, and in order to be free to perform whole-time duty has to employ someone to look after the child. That expense has been refused by the inspector of taxes, with the result that the tax payable on net earnings is excessive.

*** The inspector's contention is presumably founded on an old judicial decision. The case dealt with a claim by a married schoolmistress for part of the expense of keeping a domestic servant. In effect the court held that whether the expense was "necessary" or not, it was not incurred "in the performance of the duties" of the employment. The application of this decision to the facts in J. C.'s case seems justifiable in law, though the result certainly creates a hardship in present conditions.

Damage by Bombs

A. R. was bombed in 1940 and (in another house) also in 1944. What claims can he make for income-tax deductions?

*** No claim can be made for damage to *private* belongings, but claims can be made in respect of professional equipment in so far as the expense is not covered by insurance or War Damage Compensation. The claims will be based on the cost of removing and/or replacing items of professional furniture and equipment, including the car if that is being dealt with by replacement cost allowance and not by depreciation allowance. Costs of removal, including agents' fees, etc., are also allowable.

LETTERS, NOTES, ETC.

Rocking Movements in Sleep

S. R. D. writes: The question in the *Journal* of Dec. 2, about the boy of 3 who rocks in the knee-elbow position when half asleep, attracted my attention, and the following personal observations may interest the inquirer. I have three children, all boys and aged 1½, 4½, and 5½; they each developed this characteristic habit about the age of 1 year, and the youngest still practises it regularly. They rock on knees and hands rather than elbows, and in so doing hit their head on the cot so forcibly that the noise can be heard throughout the house. Yet the impact does not appear to wake them to full consciousness. The rhythmical movement, always in the same position, occurs when they are in process of going to sleep, and in that it appears to help rather than hinder. They do it particularly when sleep is disturbed either by noise, a full bladder, or by the child getting uncovered and cold. The habit appeared so unusual that I have inquired among friends and relatives, but have not previously heard of any other child who had it, except my elder brother's two boys, who apparently exhibited the same mannerism in childhood. There can hardly be any question of one child imitating another because the cousins have never met, and, as regards my own boys, the youngest at any rate has never slept in the same room as the other two. Another of my brothers has two children, both girls, and neither has been subject to this rocking movement; neither have my sister's children (1 boy and 2 girls). However, I sometimes wonder if it is a familial trait, and also whether it appears in boys rather than in girls. As regards treatment we have done nothing except to see so far as possible that the child is kept warm and to prevent bruising of the head by padding the cot end. We have never drawn the child's attention to the habit, and have waited in the expectation that it would "grow out of it." So far our attitude appears to have been justified. Already the two elder boys have almost ceased the practice. But I should add that one of my nephews continued it until about 13 years of age. For fear of ridicule he made himself give it up on going to a boarding school, but even then, during holidays, would occasionally indulge and he described it as giving rise to a pleasurable and soothing sensation—conducive to sleep. In none of the instances quoted does there appear to have been any question of masturbation. All the boys are normally developed and are physically and mentally healthy and, we flatter ourselves, are at least of average intelligence. I hope you will not mind if I sign this very personal note with a pseudonym.

Skin Protection for Fractured Lower Limbs

Dr. E. W. BEDFORD-TURNER writes from Southlands Hospital, Shoreham-by-Sea: In view of the increased use of skin extension in fractures of the lower limbs perhaps the following hint might be of use. A "viscopaste" bandage (Unna's paste type) is applied to the whole of the fractured limb from the foot to nearly the top of the thigh. The extension strapping is then applied directly on to the viscopaste bandage and is kept in place by another "viscopaste" bandage applied from just above the ankle to the upper level of the extension strapping. I have used this method with great success in old patients and in those whose skins are sensitive to extension strapping. It can also be used where the skin is already damaged or where the fracture is complicated by varicose veins.

Mental Hospital Doctors' Pay

"X. Y. Z." writes: "A.M.O." in his letter (Oct. 28, p. 5[illegible]) refers to the salary scales of A.M.O.s in mental hospitals as antiquated. I agree that immediate revision of the scales is indicated. Medical superintendents are generously paid, provided with palatial residences, and receive emoluments that defy evaluation. The poor A.M.O. is forgotten. It is he who actually administers the complicated modern psychiatric methods of treatment, and is expected of him to supplement his qualifications with a D.P.M. Surely his remuneration sadly needs readjustment on lines comparable to those of the admirable Rushcliffe awards.

Horticultural Mishap

Dr. A. M. MORRICE (Southampton) writes: The following may be considered worthy of recording owing to its unusual features. On Sept. 23 an old lady of 76 came to see me with a history that she had been gardening that afternoon and had noticed a number of garden snails about. When she was having her tea later on she experienced an irritation about the vulva and soon herself feel an object in the vagina. Although sceptical about the statement that "a snail had crept up her inside" I decided to investigate, and eventually removed a garden snail from the posterior fornix with a swab-holding forceps.

Corrigendum

The number of Mantoux-negative nurses referred to in line [illegible] Dr. Snell's letter (Dec. 9, p. 768) should read 452, not 42. [illegible] the printer's error is large, Dr. Snell's argument is unaffected.